Quantitative Aptitude

Random questions

1) If log 0.317=0.3332 and log 0.318=0.3364 then find log 0.319?
Ans: 0.3396

2) A box of 150 packets consists of 1kg packets and 2kg packets. Total weight of box is 264kg. How many 2kg packets are there?
Ans: Number of 2 kg Packs = 114.

3) My flight takes of at 2am from a place at 18N 10E and landed 10 Hrs later at a place with coordinates 36N70W. What is the local time when my plane landed?
6:00 am b) 6:40am c) 7:40 d) 7:00 e) 8:00
Ans: 6: 40 AM

4) A plane moves from 9°N40°E to 9°N40°W. If the plane starts at 10 am and takes 8 hours to reach the destination, find the local arrival time?
Ans: 12:30

5) The size of the bucket is N kb. The bucket fills at the rate of 0.1 kb per millisecond. A programmer sends a program to receiver. There it waits for 10 milliseconds. And response will be back to programmer in 20 milliseconds. How much time the program takes to get a response back to the programmer, after it is sent? Please tell me the answer with explanation. Very urgent.
Ans: 30ms

6) A file is transferred from one location to another in 'buckets'. The size of the bucket is 10 kilobytes. Each bucket gets filled at the rate of 0.0001 kilobytes per millisecond. The transmission time from sender to receiver is 10 milliseconds per bucket. After the receipt of the bucket the receiver sends an acknowledgement that reaches sender in 100 milliseconds. Assuming no error during transmission, write a formula to calculate the time taken in seconds to successfully complete the transfer of a file of size N kilobytes.
(n/1000)*(n/10)*10+(n/100).

7) A fisherman's day is rated as good if he catches 9 fishes, fair if 7 fishes and bad if 5 fishes. He catches 53 fishes in a week n had all good, fair n bad days in the week. So how many good, fair n bad days did the fisher man had in the week
Ans: 4 good, 1 fair n 2 bad days

8) Y catches 5 times more fishes than X. If total number of fishes caught by X and Y is 42, then number of fishes caught by X?
Ans: p=7,r=35

9) Three companies are working independently and receiving the savings 20%, 30%, 40%. If the companies work combinely, what will be their net savings?
Ans: 210

10) The ratio of incomes of C and D is 3:4.the ratio of their expenditures is 4:5. Find the ratio of their savings if the savings of C is one fourths of his income?
Ans: 12/19

11) If G(0) = -1 G(1)= 1 and G(N)=G(N-1) - G(N-2) then what is the value of G(6)?
Ans: -1

12) If A can copy 50 pages in 10 hours and A and B together can copy 70 pages in 10 hours, how much time does B takes to copy 26 pages?
Ans: To copy 26 pages B will need almost 3hrs.
since in 3hrs B can copy 27 pages.

13) what's the answer for that :
A, B and C are 8 bit no's. They are as follows:
A -> 1 1 0 0 0 1 0 1
B -> 0 0 1 1 0 0 1 1
C -> 0 0 1 1 1 0 1 0 (- =minus, u=union)
Find ((A - C) u B) =?
Ans: 187.

14) One circular array is given(means memory allocation tales place in circular fashion) diamension(9X7) and sarting add. is 3000, What is the address of (2,3).....
Ans: 3012.

15) In a two-dimensional array, X (9, 7), with each element occupying 4 bytes of memory, with the address of the first element X (1, 1) is 3000, find the address of X (8, 5).
Ans: 3212

16) Which of the following is power of 3 a) 2345 b) 9875 c) 6504 d) 9833

17) The size of a program is N. And the memory occupied by the program is given by M = square root of 100N. If the size of the program is increased by 1% then how much memory now occupied ?
Ans: M=sqrt(101 * N)

18)
1)SCOOTER --------- AUTOMOBILE--- A. PART OF

2.OXYGEN---------- WATER ------- B. A Type of
3.SHOP STAFF------- FITTERS------ C. NOT A TYPE OF
4. BUG ----------REPTILE------ D. A SUPERSET OF
1)B 2)A 3)D 4)C

19) A bus started from bustand at 8.00a m and after 30 min staying at destination, it returned back to the bustand. the destination is 27 miles from the bustand. the speed of the bus 50 percent fast speed. at what time it returns to the bustand
Ans: 11 a.m

20) In two dimensional array X(7,9) each element occupies 2 bytes of memory.If the address of first element X(1,1)is 1258 then what will be the address of the element X(5,8) ?
Ans: 1338.

21) The temperature at Mumbai is given by the function: -t2/6+4t+12 where t is the elapsed time since midnight. What is the percentage rise (or fall) in temperature between 5.00PM and 8.00PM?

22) Low temperature at the night in a city is 1/3 more than 1/2 high as higher temperature in a day. Sum of the low temperature and highest temp. is 100 degrees. Then what is the low temp?
Ans: 40

23) In Madras, temperature at noon varies according to -t^2/2 + 8t + 3, where t is elapsed time. Find how much temperature more or less in 4pm to 9pm. Ans. At 9pm 7.5 more
Ans: 7.5

24) A person had to multiply two numbers. Instead of multiplying by 35, he multiplied by 53 and the product went up by 540. What was the raised product?
a) 780 b) 1040 c) 1590 d) 1720
Ans: 1590

25) How many positive integer solutions does the equation 2x+3y = 100 have?
a) 50 b) 33 c) 16 d) 35
Ans: 16

26) The total expense of a boarding house are partly fixed and partly variable with the number of boarders. The charge is Rs.70 per head when there are 25 boarders and Rs.60 when there are 50 boarders. Find the charge per head when there are 100 boarders.
a) 65 b) 55 c) 50 d) 45
Ans: 55

27) Amal bought 5 pens, 7 pencils and 4 erasers. Rajan bought 6 pens, 8 erasers and 14 pencils for an amount which was half more than what Amal had paid. What % of the total amount paid by Amal was paid for pens?
a) 37.5% b) 62.5% c) 50% d) None of these
Ans: 62.5%

28) I lost Rs.68 in two races. My second race loss is Rs.6 more than the first race. My friend lost Rs.4 more than me in the second race. What is the amount lost by my friend in the second race?
Ans: Rs. 41

29) Ten boxes are there. Each ball weighs 100 gms. One ball is weighing 90 gms. i) If there are 3 balls (n=3) in each box, how many times will it take to find 90 gms ball? ii) Same question with n=10 iii) Same question with n=9
to me the chances are
when n=3
(i) nC1= 3C1 =3 for 10 boxes .. 10*3=30
(ii) 10C1=10 for 10 boxes ....10*10=100
(iii)9C1=9 for 10 boxes .....10*9=90

30) (1-1/6) (1-1/7).... (1- (1/ (n+4))) (1-(1/ (n+5))) = ?
Ans: 5

31) A face of the clock is divided into three parts. First part hours total is equal to the sum of the second and third part. What is the total of hours in the bigger part?
Ans: 6 hrs

32) With 4/5 full tank vehicle travels 12 miles, with 1/3 full tank how much distance travels
Ans: 5 miles

33) wind blows 160 miles in 330min.for 80 miles how much time required
Ans: 165 min.

34) A person was fined for exceeding the speed limit by 10mph.another person was also fined for exceeding the same speed limit by twice the same if the second person was travelling at a speed of 35 mph. find the speed limit
Ans: 15mph

35) A sales person multiplied a number and get the answer is 3 instead of that number divided by 3. What is the answer he actually has to get.
Ans: 1/3

36) A person who decided to go weekend trip should not exceed 8 hours driving in a day average speed of forward journey is 40 mph due to traffic in Sundays the return journey average speed is 30 mph. How far he can select a picnic spot.

37) Low temperature at the night in a city is 1/3 more than 1/2 hinge as higher temperature in a day. Sum of the low temp and high temp is 100 c. then what is the low temp.
Ans: is 40 c.

38) Car is filled with four and half gallons of oil for full round trip. Fuel is taken 1/4 gallons

more in going than coming. What is the fuel consumed in coming up.
Ans: 2gallons

39) A work is done by the people in 24 min. One of them can do this work alone in 40 min. How much time required to do the same work for the second person
Ans: 60 mins.

40) In a company 30% are supervisors and 40% employees are male if 60% of supervisors are male. What is the probability? That a randomly chosen employee is a male or female?
Ans: 0.264

41) In 80 coins one coin is counterfeit what is minimum number of weighing to find out counterfeit coin
Ans: the minimum number of weightings needed is just 5.

(1) 80->30-30
(2) 15-15
(3) 7-7
(4) 3-3
(5) 1-1

42) 2 oranges, 3 bananas and 4 apples cost Rs.15. 3 oranges, 2 bananas, and 1 apple costs Rs 10. What is the cost of 3 oranges, 3 bananas and 3 apples?
Ans: 15

43) In 8*8 chess board what is the total number of squares refers
Ans: 204

44) One fast typist type some matter in 2hr and another slow typist type the same matter in 3hr. If both do combine in how much time they will finish.
Ans: 1 hour 12 min.

45) If Rs20/- is available to pay for typing a research report & typist A produces 42 pages and typist B produces 28 pages. How much should typist A receive?
Ans: 12 Rs

46) An officer kept files on his table at various times in the order 1,2,3,4,5,6. Typist can take file from top whenever she has time and type it.What order she cannt type.?

47) In some game 139 members have participated every time one fellow will get bye what is the number of matches to choose the champion to be held?
Ans: is 138 matches

48) One rectangular plate with length 8inches, breadth 11 inches and 2 inches thickness is there. What is the length of the circular rod with diameter 8 inches and equal to volume of rectangular plate?
Ans: 3.5

49) One tank will fill in 6 minutes at the rate of 3cu ft /min, length of tank is 4 ft and the width is 1/2 of length, what is the depth of the tank?
Ans: 3 ft 7.5 inches

50) A man has to get air-mail. He starts to go to airport on his motorbike. Plane comes early and the mail is sent by a horse-cart. The man meets the cart in the middle after half an hour. He takes the mail and returns back, by doing so, he saves twenty minutes. How early did the plane arrive?
Ans: 10min

51) Ram singh goes to his office in the city every day from his suburban house. His driver Mangaram drops him at the railway station in the morning and picks him up in the evening. Every evening Ram singh reaches the station at 5 o'clock. Mangaram also reaches at the same time. One day Ram singh started early from his office and came to the station at 4 o'clock. Not wanting to wait for the car he starts walking home. Mangaram starts at normal time, picks him up on the way and takes him back house, half an hour early. How much time did Ram singh walked?

52) 2 trees are there. One grows at 3/5 of the other. In 4 years total growth of the trees is 8 ft. what growth will smaller tree have in 2 years.
Ans: 1.5 mt

53) There is a six digit code. Its first two digits, multiplied by 3 gives all ones. And the next two digits multiplied by 6 give all twos. Remaining two digits multiplied by 9 gives all threes. Then what is the code?
Ans: 37

54) There are 4 balls and 4 boxes of colors yellow, pink, red and green. Red ball is in a box whose colour is same as that of the ball in a yellow box. Red box has green ball. In which box you find the yellow ball?
Ans: Green.

55) A bag contains 20 yellow balls, 10 green balls, 5 white balls, 8 black balls, and 1 red ball. How many minimum balls one should pick out so that to make sure the he gets at least 2 balls of same color.
Ans: 6 balls

56) What is the number of zeros at the end of the product of the numbers from 1 to 100
Ans: 24

57) 10 Digit number has its first digit equals to the numbers of 1's, second digit equals to the numbers of 2's, 3rd digit equals to the numbers of 3's .4th equals number of 4's..till 9th digit equals to the numbers of 9's and 10th digit equals to the number of 0's. what is the number?.(6marks)
ans:2100010006

58) There are two numbers in the ratio 8:9. if the smaller of the two numbers is increased by 12 and the larger number is reduced by 19 thee the ratio of the two numbers is 5:9. Find the larger number?
Ans: 36

59) There are three different boxes A, B and C. Difference between weights of A and B is 3 kgs. And between B and C is 5 kgs. Then what is the maximum sum of the differences of all possible combinations when two boxes are taken each time
Ans: 16 kgs

60) A and B are shooters and having their exam. A and B fall short of 10 and 2 shots respectively to the qualifying mark. If each of them fired atleast one shot and even by adding their total score together, they fall short of the qualifying mark, what is the qualifying mark?
Ans: 11

61) A, B, C, and D tells the following times by looking at their watches. A tells it is 3 to 12. B tells it is 3 past 12. C tells it is 12:2. D tells it is half a dozen too soon to 12. No two watches show the same time. The difference between the watches is 2,3,4,5 respectively. Whose watch shows maximum time?
Ans: B

62) Falling height is proportional to square of the time. One object falls 64cm in 2sec than in 6sec from how much height the object will fall.
Ans: 576cm

63) Gavaskar average in first 50 innings was 50. After the 51st innings his average was 51 how many runs he made in the 51st innings
Ans) 101 runs.

64) Anand finishes a work in 7 days, Bittu finishes the same job in 8 days and Chandu in 6 days. They take turns to finish the work. Anand on the first day, Bittu on the second and Chandu on the third day and then Anand again and so on. On which day will the work get over?
a) 3rd b) 6th c) 9th d) 7th
Ans: 7th day

65) A man, a women and a child can do a piece of work in 6 days,man can do it in 14 days, women can do it 16 days, and in how many days child can do the same work?
Ans: 24 days

66) A: 1 1 0 1 1 0 1 1
B: 0 1 1 1 1 0 1 0
C: 0 1 1 0 1 1 0 1
Ans: 109

Problems on average

1. In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

A. 6.25 B. 5.5

C. 7.4 D. 5

2. A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?

A. 4800 B. 4991

C. 5004 D. 5000

3. The average of 20 numbers is zero. Of them, How many of them may be greater than zero , at the most?

A. 1 B. 20

C. 0 D. 19

4. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. Find out the average age of the team.

A. 23 years B. 20 years

C. 24 years D. 21 years

5. The average monthly income of A and B is Rs. 5050. The average monthly income of B and C is Rs. 6250 and the average monthly income of A and C is Rs. 5200. What is the monthly income of A?

A. 2000 B. 3000

C. 4000 D. 5000

6. A car owner buys diesel at Rs.7.50, Rs. 8 and Rs. 8.50 per litre for three successive years. What approximately is the average cost per litre of diesel if he spends Rs. 4000 each year?

A. Rs. 8 B. Rs. 7.98

C. Rs. 6.2 D. Rs. 8.1

7. In Kiran's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Kiran and he thinks that Kiran's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are them are correct in their estimation, what is the average of different probable weights of Kiran?

A. 70 kg
B. 69 kg
C. 61 kg
D. 67 kg

8. The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class.

A. 48.55
B. 42.25
C. 50
D. 51.25

9. A library has an average of 510 visitors on Sundays and 240 on other days. What is the average number of visitors per day in a month of 30 days beginning with a Sunday?

A. 290
B. 304
C. 285
D. 270

10. A student's mark was wrongly entered as 83 instead of 63. Due to that the average marks for the class got increased by half 1/2. What is the number of students in the class?

A. 45
B. 40
C. 35
D. 30

11. A family consists of two grandparents, two parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. The average age of the family is

A. 3227 years
B. 3157 years
C. 2817 years
D. 3057 years

12. The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, what is the weight of B?

A. 31 kg
B. 2812 kg
C. 32 kg
D. 3012 kg

13. If the average marks of three batches of 55, 60 and 45 students respectively is 50, 55, 60, what is the average marks of all the students?

A. 53.23 B. 54.68

C. 51.33 D. 50

14. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. What is the present age of the husband?

A. 40 B. 32

C. 28 D. 30

15. The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What is the weight of the new person?

A. 75 Kg B. 50 Kg

C. 85 Kg D. 80 Kg

16. There are two divisions A and B of a class, consisting of 36 and 44 students respectively. If the average weight of divisions A is 40 kg and that of division b is 35 kg. What is the average weight of the whole class?

A. 38.25 B. 37.25

C. 38.5 D. 37

17. A batsman makes a score of 87 runs in the 17th inning and thus increases his averages by 3. What is his average after 17th inning?

A. 39 B. 35

C. 42 D. 40.5

18. A student needed to find the arithmetic mean of the numbers 3, 11, 7, 9, 15, 13, 8, 19, 17, 21, 14 and x. He found the mean to be 12. What is the value of x?

A. 12 B. 5

C. 7 D. 9

19. Arun obtained 76, 65, 82, 67 and 85 marks (out in 100) in English, Mathematics, Chemistry,

Biology and Physics. What is his average mark?

A. 53 B. 54

C. 72 D. 75

20. Distance between two stations A and B is 778 km. A train covers the journey from A to B at 84 km per hour and returns back to A with a uniform speed of 56km per hour. Find the average speed of the train during the whole journey?

A. 69.0 km /hr B. 69.2 km /hr

C. 67.2 km /hr D. 67.0 km /hr

21. The average age of boys in a class is 16 years and that of the girls is 15 years. What is the average age for the whole class?

A. 15 B. 16

C. 15.5 D. Insufficient Data

22. The average age of 36 students in a group is 14 years. When teacher's age is included to it, the average increases by one. Find out the teacher's age in years?

A. 51 years B. 49 years

C. 53 years D. 50 years

23. The average of five numbers id 27. If one number is excluded, the average becomes 25. What is the excluded number?

A. 30 B. 40

C. 32.5 D. 35

24. The batting average for 40 innings of a cricket player is 50 runs. His highest score exceeds his lowest score by 172 runs. If these two innings are excluded, the average of the remaining 38 innings is 48 runs. Find out the highest score of the player.

A. 150 B. 174

C. 180 D. 166

25. The average score of a cricketer for ten matches is 38.9 runs. If the average for the first six

matches is 42, what is the average for the last four matches?

A. 34.25 B. 36.4

C. 40.2 D. 32.25

26. The average of six numbers is x and the average of three of these is y. If the average of the remaining three is z, then

A. None of these B. $x = y + z$

C. $2x = y + z$ D. $x = 2y + 2z$

27. Suresh drives his car to a place 150 km away at an average speed of 50 km/hr and returns at 30 km/hr. What is his average speed for the whole journey ?

A. 32.5 km/hr. B. 35 km/hr.

C. 37.5 km/hr D. 40 km/hr

28. The average age of a husband and his wife was 23 years at the time of their marriage. After five years they have a one year old child. What is the average age of the family ?

A. 21 years B. 20 years

C. 18 years D. 19 years

29. In an examination, a student's average marks were 63. If he had obtained 20 more marks for his Geography and 2 more marks for his history, his average would have been 65. How many subjects were there in the examination?

A. 12 B. 11

C. 13 D. 14

30. The average salary of all the workers in a workshop is Rs.8000. The average salary of 7 technicians is Rs.12000 and the average salary of the rest is Rs.6000. How many workers are there in the workshop?

A. 21 B. 22

C. 23

Problems on trains

1. A train is running at a speed of 40 km/hr and it crosses a post in 18 seconds. What is the length of the train?

A. 190 metres
B. 160 metres
C. 200 metres
D. 120 metres

2. A train ,130 meters long travels at a speed of 45 km/hr crosses a bridge in 30 seconds. The length of the bridge is

A. 270 m
B. 245 m
C. 235 m
D. 220 m

3. A train has a length of 150 meters . it is passing a man who is moving at 2 km/hr in the same direction of the train, in 3 seconds. Find out the speed of the train.

A. 182 km/hr
B. 180 km/hr
C. 152 km/hr
D. 169 km/hr

4. A train having a length of 240 m passes a post in 24 seconds. How long will it take to pass a platform having a length of 650 m?

A. 120 sec
B. 99 s
C. 89 s
D. 80 s

5. A train 360 m long runs with a speed of 45 km/hr. What time will it take to pass a platform of 140 m long?

A. 38 sec
B. 35 s
C. 44 sec
D. 40 s

6. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively . If they cross each other in 23 seconds, what is the ratio of their speeds?

A. Insufficient data
B. 3 : 1
C. 1 : 3
D. 3 : 2

7. A jogger is running at 9 kmph alongside a railway track in 240 meters ahead of the engine of a

120 meters long train . The train is running at 45 kmph in the same direction. how much time does it take for the train to pass the jogger?

A. 46 B. 36

C. 18 D. 22

8. Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36 km/hr. If the faster train passes the slower train in 36 seconds,what is the length of each train?

A. 88 B. 70

C. 62 D. 50

9. Two trains having length of 140 m and 160 m long run at the speed of 60 km/hr and 40 km/hr respectively in opposite directions (on parallel tracks). The time which they take to cross each other, is

A. 10.8 s B. 12 s

C. 9.8 s D. 8 s

10. Two trains are moving in opposite directions with speed of 60 km/hr and 90 km/hr respectively. Their lengths are 1.10 km and 0.9 km respectively. the slower train cross the faster train in --- seconds

A. 56 B. 48

C. 47 D. 26

11. A train passes a platform in 36 seconds. The same train passes a man standing on the platform in 20 seconds. If the speed of the train is 54 km/hr, The length of the platform is

A. None of these B. 280 meter

C. 240 meter D. 200 meter

12. A train moves past a post and a platform 264 m long in 8 seconds and 20 seconds respectively. What is the speed of the train?

A. 79.2 km/hr B. 69 km/hr

C. 74 km/hr D. 61 km/hr

13. Two trains having equal lengths, take 10 seconds and 15 seconds respectively to cross a post. If the length of each train is 120 meters, in what time (in seconds) will they cross each other

when traveling in opposite direction?

A. 10 B. 25

C. 12 D. 20

14. Two trains, one from P to Q and the other from Q to P, start simultaneously. After they meet, the trains reach their destinations after 9 hours and 16 hours respectively. The ratio of their speeds is

A. 2 : 3 B. 2 :1

C. 4 : 3 D. 3 : 2

15. A train having a length of 1/4 mile , is traveling at a speed of 75 mph. It enters a tunnel 3 ½ miles long. How long does it take the train to pass through the tunnel from the moment the front enters to the moment the rear emerges?

A. 3 min B. 4.2 min

C. 3.4 min D. 5.5 min

16. A train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the train?

A. 270 m B. 210 m

C. 340 m D. 130 m

17. A train overtakes two persons who are walking in the same direction to that of the train at 2 kmph and 4 kmph and passes them completely in 9 and 10 seconds respectively. What is the length of the train?

A. 62 m B. 54 m

C. 50 m D. 55 m

18. A train is traveling at 48 kmph . It crosses another train having half of its length , traveling in opposite direction at 42 kmph, in 12 seconds. It also passes a railway platform in 45 seconds. What is the length of the platform?

A. 500 m B. 360 m

C. 480 m D. 400 m

19. A train having a length of 270 meter is running at the speed of 120 kmph . It crosses another train running in opposite direction at the speed of 80 kmph in 9 seconds. What is the length of

the other train?

A. 320 m B. 190 m

C. 210 m D. 230 m

20. Two trains, each 100 m long are moving in opposite directions. They cross each other in 8 seconds. If one is moving twice as fast the other, the speed of the faster train is

A. 75 km/hr B. 60 km/hr

C. 35 km/hr D. 70 km/hr

21. Two stations P and Q are 110 km apart on a straight track. One train starts from P at 7 a.m. and travels towards Q at 20 kmph. Another train starts from Q at 8 a.m. and travels towards P at a speed of 25 kmph. At what time will they meet?

A. 10.30 a.m B. 10 a.m.

C. 9.10 a.m. D. 11 a.m.

22. A train overtakes two persons walking along a railway track. The first person walks at 4.5 km/hr and the other walks at 5.4 km/hr. The train needs 8.4 and 8.5 seconds respectively to overtake them. What is the speed of the train if both the persons are walking in the same direction as the train?

A. 81 km/hr B. 88 km/hr

C. 62 km/hr D. 46 km/hr

23. A train , having a length of 110 meter is running at a speed of 60 kmph. In what time, it will pass a man who is running at 6 kmph in the direction opposite to that of the train

A. 10 sec B. 8 sec

C. 6 sec D. 4 sec

24. A 300 metre long train crosses a platform in 39 seconds while it crosses a post in 18 seconds. What is the length of the platform?

A. 150 m B. 350 m

C. 420 m D. 600 m

25. A train crosses a post in 15 seconds and a platform 100 m long in 25 seconds. Its length is

A. 150 m B. 300 m

C. 400 m D. 180 m

26. A train , 800 meter long is running with a speed of 78 km/hr. It crosses a tunnel in 1 minute. What is the length of the tunnel (in meters)?

A. 440 m B. 500 m

C. 260 m D. 430 m

27. Two train each 500 m long, are running in opposite directions on parallel tracks. If their speeds are 45 km/hr and 30 km/hr respectively, the time taken by the slower train to pass the driver of the faster one is

A. 50 sec B. 58 sec

C. 24 sec D. 22 sec

28. Two trains are running at 40 km/hr and 20 km/hr respectively in the same direction. If the fast train completely passes a man sitting in the slower train in 5 seconds, the length of the fast train is :

A. 19 m B. 2779 m

C. 1329 m D. 33 m

29. Two trains are running in opposite directions in the same speed. The length of each train is 120 meter. If they cross each other in 12 seconds, the speed of each train (in km/hr) is

A. 42 B. 36

C. 28 D. 20

30. A train 108 m long is moving at a speed of 50 km/hr . It crosses a train 112 m long coming from opposite direction in 6 seconds. What is the speed of the second train?

A. 82 kmph B. 76 kmph

C. 44 kmph D. 58 kmph

31. How many seconds will a 500 meter long train moving with a speed of 63 km/hr, take to cross a man walking with a speed of 3 km/hr in the direction of the train ?

A. 42 B. 50

C. 30 D. 28

Problems on time & work

1. P is able to do a piece of work in 15 days and Q can do the same work in 20 days. If they can work together for 4 days, what is the fraction of work left?

A. 8/15 B. 7/15

C. 11/15 D. 2/11

2. P can lay railway track between two stations in 16 days. Q can do the same job in 12 days. With the help of R, they completes the job in 4 days. How much days does it take for R alone to complete the work?

A. 9(3/5) days B. 9(1/5) days

C. 9(2/5) days D. 10 days

3. P, Q and R can do a work in 20, 30 and 60 days respectively. How many days does it need to complete the work if P does the work and he is assisted by Q and R on every third day?

A. 10 days B. 14 days

C. 15 days D. 9 days

4. A is thrice as good as B in work. A is able to finish a job in 60 days less than B. They can finish the work in - days if they work together.

A. 18 days B. 22 ½ days

C. 24 days D. 26 days

5. A can do a particular work in 6 days . B can do the same work in 8 days. A and B signed to do it for Rs. 3200. They completed the work in 3 days with the help of C. How much is to be paid to C?

A. Rs. 380 B. Rs. 600

C. Rs. 420 D. Rs. 400

6. 6 men and 8 women can complete a work in 10 days. 26 men and 48 women can finish the same work in 2 days. 15 men and 20 women can do the same work in - days.

A. 4 days B. 6 days

C. 2 days D. 8 days

7. A can do a piece of work in 4 hours . A and C together can do it in just 2 hours, while B and C together need 3 hours to finish the same work. B alone can complete the work in --- days.

A. 12 hours
B. 6 hours
C. 8 hours
D. 10 hours

8. P can do a work in the same time in which Q and R together can do it. If P and Q work together, the work can be completed in 10 days. R alone needs 50 days to complete the same work. then Q alone can do it in

A. 30 days
B. 25 days
C. 20 days
D. 15 days

9. A completes 80% of a work in 20 days. Then B also joins and A and B together finish the remaining work in 3 days. How long does it need for B if he alone completes the work?

A. 37 ½ days
B. 22 days
C. 31 days
D. 22 days

10. Machine P can print one lakh books in 8 hours. Machine Q can print the same number of books in 10 hours while machine R can print the same in 12 hours. All the machines started printing at 9 A.M. Machine P is stopped at 11 A.M. and the remaining two machines complete work. Approximately at what time will the printing of one lakh books be completed?

A. 3 pm
B. 2 pm
C. 1:00 pm
D. 11 am

11. P can finish a work in 18 days. Q can finish the same work in 15 days. Q worked for 10 days and left the job. How many days does P alone need to finish the remaining work?

A. 8
B. 5
C. 4
D. 6

12. 3 men and 7 women can complete a work in 10 days . But 4 men and 6 women need 8 days to complete the same work. In how many days will 10 women complete the same work?

A. 50
B. 40
C. 30
D. 20

13. A and B can finish a work 30 days if they work together. They worked together for 20 days and then B left. A finished the remaining work in another 20 days. In how many days A alone can finish the work?

A. 60 B. 50

C. 40 D. 30

14. A can complete a work in 12 days with a working of 8 hours per day. B can complete the same work in 8 days when working 10 hours a day. If A and B work together, working 8 hours a day, the work can be completed in --- days.

A. $5\frac{5}{11}$ B. $4\frac{5}{11}$

C. $6\frac{4}{11}$ D. $6\frac{5}{11}$

15. P is 30% more efficient than Q. P can complete a work in 23 days. If P and Q work together, how much time will it take to complete the same work?

A. 9 B. 11

C. 13 D. 15

16. P, Q and R can complete a work in 24, 6 and 12 days respectively. The work will be completed in --- days if all of them are working together.

A. 2 B. $3\frac{3}{7}$

C. 4 ¼ D. 5

17. 10 men can complete a work in 7 days. But 10 women need 14 days to complete the same work. How many days will 5 men and 10 women need to complete the work?

A. 5 B. 6

C. 7 D. 8

18. Kamal will complete work in 20 days. If Suresh is 25% more efficient than Kamal, he can complete the work in --- days.

A. 14 B. 16

C. 18 D. 20

19. Anil and Suresh are working on a special assignment. Anil needs 6 hours to type 32 pages on a computer and Suresh needs 5 hours to type 40 pages. If both of them work together on two

different computers, how much time is needed to type an assignment of 110 pages?

A. 7 hour 15 minutes
B. 7 hour 30 minutes
C. 8 hour 15 minutes
D. 8 hour 30 minutes

20. P and Q can complete a work in 20 days and 12 days respectively. P alone started the work and Q joined him after 4 days till the completion of the work. How long did the work last?

A. 5 days
B. 10 days
C. 14 days
D. 22 days

21. P takes twice as much time as Q or thrice as much time as R to finish a piece of work. They can finish the work in 2 days if work together. How much time will Q take to do the work alone?

A. 4
B. 5
C. 6
D. 7

22. P and Q can complete a work in 15 days and 10 days respectively. They started the work together and then Q left after 2 days. P alone completed the remaining work. The work was finished in --- days.

A. 12
B. 16
C. 20
D. 24

23. P and Q can do a work in 30 days. Q and R can do the same work in 24 days and R and P in 20 days. They started the work together, but Q and R left after 10 days. How many days more will P take to finish the work?

A. 10
B. 15
C. 18
D. 22

24. P works twice as fast as Q. If Q alone can complete a work in 12 days, P and Q can finish the work in --- days

A. 1
B. 2
C. 3
D. 4

25. A work can be finished in 16 days by twenty women. The same work can be finished in fifteen days by sixteen men. The ratio between the capacity of a man and a woman is

A. 1:3
B. 4:3

C. 2:3 D. 2:1

26. P and Q need 8 days to complete a work. Q and R need 12 days to complete the same work. But P, Q and R together can finish it in 6 days. How many days will be needed if P and R together do it?

A. 3 B. 8

C. 12 D. 4

27. P can do a work in 24 days. Q can do the same work in 9 days and R can do the same in 12 days. Q and R start the work and leave after 3 days. P finishes the remaining work in --- days.

A. 7 B. 8

C. 9 D. 10

28. If daily wages of a man is double to that of a woman, how many men should work for 25 days to earn Rs.14400? Given that wages for 40 women for 30 days are Rs.21600.

A. 12 B. 14

C. 16 D. 18

29. P,Q and R together earn Rs.1620 in 9 days. P and R can earn Rs.600 in 5 days. Q and R in 7 days can earn Rs.910. How much amount does R can earn per day?

A. Rs.40 B. Rs.70

C. Rs.90 D. Rs.100

30. Assume that 20 cows and 40 goats can be kept for 10 days for Rs.460. If the cost of keeping 5 goats is the same as the cost of keeping 1 cow, what will be the cost for keeping 50 cows and 30 goats for 12 days?

A. Rs.1104 B. Rs.1000

C. Rs.934 D. Rs.1210

31. There is a group of persons each of whom can complete a piece of work in 16 days, when they are working individually. On the first day one person works, on the second day another person joins him, on the third day one more person joins them and this process continues till the work is completed. How many days are needed to complete the work?

A. $3\frac{1}{4}$ days

B. $4\frac{1}{3}$ days

C. $5\frac{1}{6}$ days

D. $6\frac{1}{5}$ days

Problems on partnership

1. X and Y invest Rs.21000 and Rs.17500 respectively in a business. At the end of the year, they make a profit of Rs.26400. What is the share of X in the profit?

A. Rs.14400 B. Rs.26400

C. Rs.12000 D. Rs.12500

2. X starts a business with Rs.45000. Y joins in the business after 3 months with Rs.30000. What will be the ratio in which they should share the profit at the end of the year?

A. 1:2 B. 2:1

C. 1:3 D. 3:1

3. Suresh started a business with Rs.20,000. Kiran joined him after 4 months with Rs.30,000. After 2 months, Suresh withdrew Rs.5,000 of his capital and 2 more months later, Kiran brought in Rs.20,000 more. What should be the ratio in which they should share their profits at the end of the year?

A. 21:32 B. 32:21

C. 12:17 D. 17:12

4. Kamal started a business with Rs.25000 and after 4 months, Kiran joined him with Rs.60000. Kamal received Rs.58000 including 10% of profit as commission for managing the business. What amount did Kiran receive?

A. 75000 B. 70000

C. 72000 D. 78000

5. A and B started a partnership business investing Rs. 20,000 and Rs. 15,000 respectively. C joined them with Rs. 20,000 After six months. Calculate B's share in total profit of Rs. 25,000 earned at the end of 2 years from the starting of the business?

A. 7500 B. 8500

C. 9000 D. 8000

6. A starts a business with a capital of Rs. 85,000. B joins in the business with Rs.42500 after some time. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1?

A. 5 months B. 6 months

C. 7 months D. 8 months

7. A starts a business with Rs.40,000. After 2 months, B joined him with Rs.60,000. C joined them after some more time with Rs.1,20,000. At the end of the year, out of a total profit of Rs. 3,75,000, C gets Rs.1,50,000 as his share. How many months after B joined the business, did C join?

A. 4 months
B. 5 months
C. 6 months
D. 7 months

8. A and B invest in a business in the ratio 3: 2. Assume that 5% of the total profit goes to charity. If A's share is Rs. 855, what is the total profit?

A. 1400
B. 1500
C. 1600
D. 1200

9. A, B and C invest in a partnership in the ratio: 7/2, 4/3, 6/5. After 4 months, A increases his share 50%. If the total profit at the end of one year be Rs. 21,600, then what is B's share in the profit?

A. Rs. 2000
B. Rs. 3000
C. Rs. 4000
D. Rs. 5000

10. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants to be the working member for which, he was to receive 5% of the profits. The profit earned was Rs. 7400. What is the share of B in the profit.

A. 2660
B. 1000
C. 2300
D. 4000

11. A, B, C subscribe Rs. 50,000 for a business. If A subscribes Rs. 4000 more than B and B Rs. 5000 more than C, out of a total profit of Rs. 35,000, what will be the amount A receives?

A. 14200
B. 14700
C. 14800
D. 14500

12. A, B, C rent a pasture. If A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing and the rent of the pasture is Rs. 175, then how much amount should C pay as his share of rent?

A. 45
B. 35
C. 55
D. 60

13. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew ¼ of his capital and B withdrew 1/5 of his capital. At the end of 10 months, the gain was Rs. 760. What is A's share in the profit?

A. 310 B. 330

C. 370 D. 350

14. A starts a business with Rs. 3500. After 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. B's contribution in the capital is

A. 7000 B. 8000

C. 9000 D. 10000

15. A, B and C shared the profit in a business in the ratio 5 : 7 : 8. They had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their investments?

A. 10:12:14 B. 12:24:28

C. 20:22:12 D. 20:49:64

16. A and B started a partnership business investing capital in the ratio of 3 : 5. C joined in the partnership after six months with an amount equal to that of B. At the end of one year, the profit should be distributed among A, B and C in --- proportion.

A. 10 : 5 : 4 B. 5 : 3 : 4

C. 3 : 4: 5 D. 6 : 10 : 5

17. A & B partner in a business , A contribute 1/4 of the capital for 15 months & B received 2/3 of the profit . For how long B's money was used

A. 12 months B. 10 months

C. 14 months D. 16 months

18. A , B , C started a partnership business by investing Rs 27000 , 72000 , 81000 respectively. At the end of the year , the profit were distributed among them. If C's share of profit is 36000, What is the total profit?

A. 80000 B. 90000

C. 70000 D. 120000

19. A & B started a partnership business. A's investment was thrice the investment of B and the period of his investment was two times the period of investments of B. If B received Rs 4000 as profit , what is their total profit?

A. 28000 B. 30000

C. 32000 D. 34000

20. P and Q invested in a business. The profit earned was divided in the ratio 2 : 3. If P invested Rs 40000, the amount invested by Q is

A. 40000 B. 50000

C. 60000 D. 70000

21. A & B start a business jointly. A invests Rs 16000 for 8 month & B remains in a business for 4 months. Out of total profit, B claims 2/7 of the profit . How much money was contributed by B ?

A. 11200 B. 12000

C. 12400 D. 12800

22. A and B starts a business investing Rs.85000 and Rs.15000 respectively. Find out the ratio in which the profit s should be shared.

A. 10:3 B. 17:3

C. 3:10 D. 3:17

23. A , B , C start a business each investing Rs 20,000 . After 5 month A withdraws Rs 5000, B withdraws Rs 4000 & C invests Rs 6000 more . At the end of the year, a total profit of Rs 69900 was recorded . Find the share of A

A. 20600 B. 20700

C. 20500 D. 20400

24. A invested Rs 76000 in a business. After few months, B joined him with Rs 57000. The total profit was divided between them in the ratio 2 : 1 at the end of the year. After how many months did B join?

A. 2 B. 3

C. 4 D. 5

25. Three partners A , B , C start a business . B's Capital is four times C's capital and twice A's capital is equal to thrice B's capital . If the total profit is Rs 16500 at the end of a year ,Find out B's share in it.

A. 4000 B. 5000

C. 6000 D. 7000

26. In a business, A and C invested amounts in the ratio 2 : 1 , whereas the ratio between amounts invested by A and B was 3 : 2 . If Rs 157300 was their profit, how much amount did B receive?

A. 48000 B. 48200

C. 48400 D. 48600

27. P , Q and R started a business by investing Rs 120000 , Rs 135000 & Rs 150000 respectively. Find the share of each, out of the annual profit of Rs 56700

A. 16800 , 18900 , 21000 B. 17850 , 18900 , 21000

C. 16800 , 18900 , 22000 D. 17850, 18500 , 22000

28. If 4 (P's Capital) = 6 (Q's Capital) = 10 (R's Capital) , then out of the total profit of Rs 4650 , R will receive

A. 600 B. 700

C. 800 D. 900

29. P, Q, R enter into a partnership. P initially invests 25 lakh & adds another 10 lakhs after one year. Q initially invests 35 lakh & withdrawal 10 lakh after 2 years and R invests Rs 30 Lakhs . In what ratio should the profit be divided at the end of 3 years?

A. 18:19:19 B. 18:18:19

C. 19:19:18 D. 18:19:19

30. P , Q, R enter into a partnership & their share are in the ratio 1/2 : 1/3 : 1/4 , after two months , P withdraws half of the capitals & after 10 months , a profit of Rs 378 is divided among them . What is Q's share?

A. 114 B. 120

C. 134 D. 144

Problems on ages

1. Ten years ago, P was half of Q in age. If the ratio of their present ages is 3:4, what will be the total of their present ages?

A. 45 B. 40

C. 35 D. 30

2. Father is aged three times more than his son Sunil. After 8 years, he would be two and a half times of Sunil's age. After further 8 years, how many times would he be of Sunil's age?

A. 4 times B. 4 times

C. 2 times D. 3 times

3. A man's age is 125% of what it was 10 years ago, but 83 1/3 % of what it will be after ten 10 years. What is his present age?

A. 70 B. 60

C. 50 D. 40

4. A man is 24 years older than his son. In two years, his age will be twice the age of his son. What is the present age of his son?

A. 23 years B. 22 years

C. 21 years D. 20 years

5. Present ages of Kiran and Syam are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Syam's present age in years?

A. 28 B. 27

C. 26 D. 24

6. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. Find out the age of the youngest child?

A. 6 years B. 5 years

C. 4 years D. 3 years

7. A is two years older than B who is twice as old as C. The total of the ages of A, B and C is 27. How old is B?

A. 10 B. 9

C. 8 D. 7

8. The Average age of a class of 22 students is 21 years. The average increased by 1 when the teacher's age also included. What is the age of the teacher?

A. 48 B. 45

C. 43 D. 44

9. A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, what was the son's age five years back?

A. 20 years B. 18 years

C. 14 years D. 22 years

10. Ayisha's age is 1/6th of her father's age. Ayisha 's father's age will be twice the age of Shankar's age after 10 years. If Shankar's eight birthdays was celebrated two years before, then what is Ayisha 's present age.

A. 10 years B. 12 years

C. 8 years D. 5 years

11. The sum of the present ages of a son and his father is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, what will be son's age?

A. 23 years B. 22 years

C. 21 years D. 20 years

12. Kiarn is younger than Bineesh by 7 years and their ages are in the respective ratio of 7 : 9, how old is Kiran?

A. 25 B. 24.5

C. 24 D. 23.5

13. Six years ago, the ratio of the ages of Vimal and Saroj was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Saroj's age at present?

A. 18 B. 17

C. 16 D. 15

14. At present, the ratio between the ages of Shekhar and Shobha is 4 : 3. After 6 years, Shekhar's age will be 26 years. Find out the age of Shobha at present?

A. 15 years
B. 14 years
C. 13 years
D. 12 years

15. My brother is 3 years elder to me. My father was 28 years of age when my sister was born while my mother was 26 years of age when I was born. If my sister was 4 years of age when my brother was born, then what was the age my father when my brother was born?

A. 35 years
B. 34 years
C. 33 years
D. 32 years

16. The present ages of A,B and C are in proportions 4 : 7 : 9. Eight years ago, the sum of their ages was 56. What are their present ages (in years)?

A. Insufficient data
B. 16, 30, 40
C. 16, 28 40
D. 16, 28, 36

17. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. What is the present age of the mother?

A. 60
B. 50
C. 40
D. 30

18. A is as much younger than B and he is older than C. If the sum of the ages of B and C is 50 years, what is definitely the difference between B and A's age?

A. Data inadequate
B. 3 years
C. 2 years
D. 5 years

19. Sobha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?

A. 6 years
B. 5 years
C. 4 years
D. 3 years

20. The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. What is the ratio of their present ages?

A. 7 : 3
B. 3 : 7
C. 9 : 4
D. 4 : 9

21. The ages of two persons differ by 16 years. 6 years ago, the elder one was 3 times as old as the younger one. What are their present ages of the elder person?

A. 10
B. 20
C. 30
D. 40

22. The present age of a father is 3 years more than three times the age of his son. Three years hence, father's age will be 10 years more than twice the age of the son. What is father's present age?

A. 30 years
B. 31 years
C. 32 yeas
D. 33 years

23. Kamal was 4 times as old as his son 8 years ago. After 8 years, Kamal will be twice as old as his son. Find out the present age of Kamal.

A. 40 years
B. 38 years
C. 42 years
D. 36 years

24. If 6 years are subtracted from the present age of Ajay and the remainder is divided by 18, then the present age of Rahul is obtained. If Rahul is 2 years younger to Denis whose age is 5 years, then what is Ajay 's present age?

A. 50 years
B. 60 years
C. 55 years
D. 62 years

25. The ratio of the age of a man and his wife is 4:3. At the time of marriage the ratio was 5:3 and After 4 years this ratio will become 9:7. How many years ago were they married?

A. 8 years
B. 10 years
C. 11 years
D. 12 years

26. The product of the ages of Syam and Sunil is 240. If twice the age of Sunil is more than Syam's age by 4 years, what is Sunil's age?

A. 16 B. 14

C. 12 D. 10

27. One year ago, the ratio of Sooraj's and Vimal's age was 6: 7 respectively. Four years hence, this ratio would become 7: 8. How old is Vimal?

A. 32 B. 34

C. 36 D. 38

28. The total age of A and B is 12 years more than the total age of B and C. C is how many year younger than A?

A. 10 B. 11

C. 12 D. 13

29. Sachin's age after 15 years will be 5 times his age 5 years back. Find out the present age of Sachin?

A. 10 years B. 11 years

C. 12 years D. 13 years

30. Sandeep's age after six years will be three-seventh of his father's age. Ten years ago the ratio of their ages was 1 : 5. What is Sandeep's father's age at present?

A. 30 years B. 40 years

C. 50 years D. 60 years

Problems on profit & loss

1. John buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, what is his gain percent?

A. 12%
B. 10%
C. 447%
D. 5511%

2. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, find out the value of x

A. 15
B. 25
C. 18
D. 16

3. If selling price is doubled, the profit triples. What is the profit percent?

A. 100
B. 10513
C. 6623
D. 120

4. In a shop, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, find out approximately what percentage of the selling price is the profit?

A. 250%
B. 100%
C. 70%
D. 30%

5. A vendor bought bananas at 6 for a rupee. How many for a rupee must he sell to gain 20%?

A. 3
B. 4
C. 5
D. 6

6. The percentage profit earned by selling an item for Rs. 1920 is equal to the percentage loss incurred by selling the same item for Rs. 1280. At what price should the item be sold to make 25% profit?

A. Insufficient Data
B. Rs. 3000
C. Rs. 2000
D. Rs. 2200

7. An exporter expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit?

A. Insufficient Data
B. Rs. 80

C. Rs. 90 D. Rs. 72

8. A man buys a scooter for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the scooter?

A. Rs. 1240 B. Rs. 1190

C. Rs. 1090 D. Rs. 1130

9. Murali purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. Find out his profit percentage.

A. 3.5 B. 5.6

C. 4.1 D. 3.4

10. Some items were bought at 6 items for Rs. 5 and sold at 5 items for Rs. 6. What is the gain percentage?

A. 44% B. 3313

C. 3123 D. 30%

11. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. What is the cost price of a ball?

A. Rs. 43 B. Rs. 60

C. Rs. 55 D. Rs. 34

12. When an item is sold for Rs. 18,700, the owner loses 15%. At what price should that plot be sold to get a gain of 15%?

A. Rs. 25100 B. Rs. 24200

C. Rs. 25300 D. Rs. 21200

13. 100 oranges were bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. What is the percentage of profit or loss?

A. 1127% Loss B. 1117% Profit

C. 1427% Profit D. 1427% Loss

14. A shopkeeper sells one radio for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of

4%. What is his total gain or loss percentage?

A. 5%
B. 6%
C. 61217%
D. 51517%

15. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. What is his profit percentage?

A. 6%
B. 5%
C. 4%
D. 7%

16. If a material is sold for Rs.34.80, there is a loss of 25%. Find out the cost price of the material?

A. Rs.46.40
B. Rs.44
C. Rs.42
D. Rs.47.20

17. A fruit seller sells apples at the rate of Rs.9 per kg and thereby loses 20%. At what price per kg, he should have sold them to make a profit of 5%?

A. 11.32
B. 11
C. 12
D. 11.81

18. A trader gives 12% additional discount on the discounted price, after giving an initial discount of 20% on the labeled price of an item. The final sale price of the item is Rs.704. Find out the labeled price?

A. 1000
B. 2000
C. 1200
D. 920

19. A man sells two houses at the rate of Rs.1.995 lakhs each. On one he gains 5% and on the other, he loses 5%. What is his gain or loss percent in the whole transaction?

A. 0.25%.
B. .3%
C. .4%
D. .5%

20. John purchased a machine for Rs. 80,000. After spending Rs.5000 on repair and Rs.1000 on transport he sold it with 25% profit. What price did he sell the machine?

A. Rs.107000.
B. Rs.107500.

C. Rs.108500. D. None of these

21. By selling an item for Rs.15, a trader loses one sixteenth of what it costs him. The cost price of the item is

A. Rs.14 B. Rs.15

C. Rs.16 D. Rs.17

22. A shopkeeper sells his goods at cost price but uses a weight of 800 gm instead of kilogram weight. What is his profit percentage?

A. 18% B. 40%

C. 25% D. 20%

23. Prashant bought a car and paid 10 % less than the original price. He sold it with 30% profit on the price he had paid. What percentage of profit did he earn on the original price?

A. 17% B. 16%

C. 18% D. 14%

24. If a seller reduces the selling price of an item from Rs.400 to Rs.380, his loss increases by 2%. What is the cost price of the item?

A. 1000 B. 800

C. 1200 D. 1100

25. A trader keeps the marked price of an item 35% above its cost price. The percentage of discount allowed to gain 8% is

A. None B. 30%

C. 25% D. 20%

26. Arun bought a computer with 15% discount on the labeled price. He sold the computer for Rs.2880 with 20% profit on the labeled price. At what price did he buy the computer?

A. Rs.3000 B. Rs.2080

C. Rs.2040 D. Rs.2000

27. An item was sold for Rs.27.50 with a profit of 10%. If it was sold for Rs.25.75, what would

have been the percentage of profit or loss?

A. 3% B. 2%

C. 4% D. 5%

28. If selling price of an article is Rs. 250, profit percentage is 25%. Find the ratio of the cost price and the selling price

A. 5: 3 B. 3 : 5

C. 4 : 5 D. 5 : 4

29. A material is purchased for Rs. 600. If one fourth of the material is sold at a loss of 20% and the remaining at a gain of 10%, Find out the overall gain or loss percentage?

A. 312% B. 212%

C. 3% D. 2%

30. A shopkeeper buys pencils at 9 for Rs. 16 and sells them at 11 for Rs. 22. Find out his loss or gain percentage?

A. 1212% B. 12%

C. 14% D. 1123%

31. A reduction of 10% in the price of a pen enabled a trader to purchase 9 more for Rs.540. What is the reduced price of the pen?

A. 8 B. 6

C. 5 D. 4

32. Sunil purchases two books at Rs.300 each. He sold one book 10% gain and other at 10% loss. What is the total loss or gain in percentage?

A. 10% gain B. 1% loss

C. No loss or no gain D. 1% gain

Problems on volumes

1. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?

A. 26 litres
B. 29.16 litres
C. 28 litres
D. 28.2 litres

2. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety of tea in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, what is the price of the third variety per kg ?

A. Rs.182.50
B. Rs.170.5
C. Rs.175.50
D. Rs.180

3. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much milk should he mix from each of the containers so as to get 12 litres of milk such that the ratio of water to milk is 3 : 5?

A. 5litres, 7 litres
B. 7litres, 4 litres
C. 6litres, 6 litres
D. 4litres, 8 litres

4. Two vessels A and B contain spirit and water in the ratio 5 : 2 and 7 : 6 respectively. Find the ratio in which these mixture be mixed to obtain a new mixture in vessel C containing spirit and water in the ration 8 : 5 ?

A. 3: 4
B. 4 : 3
C. 9 : 7
D. 7 : 9

5. The cost of Type 1 material is Rs. 15 per kg and Type 2 material is Rs.20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then what is the price per kg of the mixed variety of material?

A. Rs. 19
B. Rs. 16
C. Rs. 18
D. Rs. 17

6. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.

A. 4 : 3
B. 3 : 4
C. 2 : 3
D. 3 : 2

7. 8 litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of the water is 16 : 65. How much wine did the cask originally hold?

A. 30 litres
B. 26 litres
C. 24 litres
D. 32 litres

8. A jar full of whiskey contains 40% alcohol. A part of this whisky is replaced by another containing 19% alcohols and now the percentage of alcohol was found to be 26%. The quantity of whisky replaced is

A. 43
B. 34
C. 32
D. 23

9. How many kilograms of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per Kg so that there may be a gain of 10 % by selling the mixture at Rs. 9.24 per Kg ?

A. 60 Kg
B. 63 kg
C. 58 Kg
D. 56 Kg

10. In what ratio should rice at Rs.9.30 per Kg be mixed with rice at Rs. 10.80 per Kg so that the mixture be worth Rs.10 per Kg ?

A. 7 : 8
B. 8 : 7
C. 6 : 7
D. 7 ; 6

11. In what ratio must tea worth Rs. 60 per kg be mixed with tea worth Rs. 65 a Kg such that by selling the mixture at Rs. 68.20 a Kg ,there can be a gain 10%?

A. 3 : 2
B. 2 : 3
C. 4 : 3
D. 3 : 4

12. A container contains a mixture of two liquids P and Q in the ratio 7 : 5. When 9 litres of mixture are drawn off and the container is filled with Q, the ratio of P and Q becomes 7 : 9. How many litres of liquid P was contained in the container initially?

A. 23
B. 21
C. 19
D. 17

13. A vessel is filled with liquid, 3 parts of which are water and 5 parts of syrup. How much of

the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

A. 13 B. 14

C. 15 D. 16

14. In what ratio must water be mixed with milk costing Rs.12 per litre in order to get a mixture worth of Rs.8 per litre?

A. 1 : 3 B. 2 : 2

C. 1 : 2 D. 3 : 1

15. In what ratio must tea at Rs.62 per Kg be mixed with tea at Rs. 72 per Kg so that the mixture must be worth Rs. 64.50 per Kg?

A. 1 : 2 B. 2 : 1

C. 3 : 1 D. 1 : 3

16. In what ratio must a grocer mix two varieties of pulses costing Rs.15 and Rs. 20 per kg respectively to obtain a mixture worth Rs.16.50 per Kg?

A. 1 : 2 B. 2 : 1

C. 3 : 7 D. 7 : 3

17. A merchant has 1000 kg of sugar part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The Quantity sold at 18% profit is

A. 300 B. 400

C. 600 D. 500

18. A dishonest milkman sells his milk at cost price but he mixes it with water and thereby gains 25%. What is the percentage of water in the mixture?

A. 25% B. 20%

C. 22% D. 24%

19. In what ratio must water be mixed with milk to gain 1623% on selling the mixture at cost price?

A. 6 : 1 B. 1 : 6

C. 1 : 4 D. 4 : 1

20. In what ratio must rice at Rs.7.10 be mixed with rice at Rs.9.20 so that the mixture may be worth Rs.8 per Kg?

A. 5 : 4
B. 2 : 1
C. 3 : 2
D. 4 : 3

21. How many Kg of rice at Rs.6.60 per Kg. be mixed with 56Kg of rice at Rs.9.60 per Kg to get a mixture worth Rs.8.20 per Kg

A. 56 Kg
B. 52 Kg
C. 44 Kg
D. 49 Kg

22. How many litres of water must be added to 16 liters of milk and water contains 10% water to make it 20% water in it

A. 4 litre
B. 2 litre
C. 1 litre
D. 3 litre

23. We have a 630 ml of mixture of milk and water in the ratio 7:2. How much water must be added to make the ratio 7:3?

A. 70 ml
B. 60 ml
C. 80 ml
D. 50 ml

24. 3 litre of water is added to 11 litre of a solution containing 42% of alcohol in the water. The percentage of alcohol in the new mixture is

A. 25%
B. 20%
C. 30%
D. 33%

25. Rs.460 was divided among 41 boys and girls such that each boy Rs.12 and each girl got Rs.8. What is the number of boys?

A. 33
B. 30
C. 36
D. 28

26. A trader has 1600Kg of sugar. He sells a part at 8% profit and the rest at 12% profit. If he gains 11% on the whole, find the quantity sold at 12%.

A. 1200 Kg
B. 1400 Kg

C. 1600 Kg D. 800 Kg

27. In 40 litres of a mixture the ratio of milk to water is 7:1. In order to make the ratio of milk to water as 3:1, the quantity of water that should be added to the mixture will be

A. 523 litre B. 413 litre

C. 623 litre D. 6 litre

28. Some amount out Rs.7000 was lent at 6% per annum and the remaining was lent at 4% per annum. If the total simple interest from both the fractions in 5 years was Rs.1600, the sum lent of 6% per annum was

A. Rs. 2400 B. Rs. 2200

C. Rs. 2000 D. Rs. 1800

29. In 1 kg mixture of iron and manganese 20% of manganese. How much iron should be added so that the proportion of manganese becomes 10%

A. 1.5 Kg B. 2 Kg

C. .5 Kg D. 1 Kg

30. John bought 20 kg of wheat at the rate of Rs.8.50 per kg and 35 kg at the rate of Rs.8.75 per kg. He mixed the two. Approximately at what price per kg should he sell the mixture to make 40% profit as the cost price?

A. Rs.12 B. Rs.8

C. Rs.16 D. Rs.20

Problems on time

1. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

A. 154° B. 180°

C. 170° D. 160°

2. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through

A. 155° B. 145°

C. 152° D. 140°

3. At what time between 7 and 8 o'clock will the hands of a clock be in the same straight line but, not together?

A. 5 minutes past 7 B. 5311 miinutes past 7

C. 5111 minutes past 7 D. 5511 minutes past 7

4. At what time between 5.30 and 6 will the hands of a clock be at right angles?

A. 44 minutes past 5 B. 44711 minutes past 5

C. 43711 minutes past 5 D. 43 minutes past 5

5. At what angle the hands of a clock are inclined at 15 minutes past 5?

A. 6712° B. 6212°

C. 70° D. 6334°

6. At 3.40, the hour hand and the minute hand of a clock form an angle of

A. 135° B. 130°

C. 120° D. 125°

7. The angle between the minute hand and the hour hand of a clock when the time is 8.30, is

A. 75° B. 85°

C. 80° D. 70°

8. How many times in a day, are the hands of a clock in straight line but opposite in direction?

A. 48 B. 22

C. 24 D. 12

9. At what time between 3 o'clock and 4 o'clock, both the needles of a clock will coincide each other?

A. 16211 minutes past 3 B. 16411 minutes past 3

C. 15411 minutes past 3 D. 15211 minutes past 3

10. How many times will the hands of a clock coincide in a day?

A. 24 B. 22

C. 20 D. 21

11. How many times in a day, the hands of a clock are straight

A. 22 B. 44

C. 48 D. 24

12. How much does a watch lose per day, if its hands coincide every 64 minutes?

A. 34111 minute B. 32811 minute

C. 31 minute D. 33211 minute

13. At what time between 9 and 10 o' clock will the hands of a clock be together?

A. 4529 min past 9 B. 49111 min past 9

C. 48112 min past 9 D. 47215 min past 9

14. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

A. 53611 minutes past 4 B. 53711 minutes past 4

C. 54611 minutes past 4 D. 54711 minutes past 4

15. A watch which gains 5 seconds in 3 minutes was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 o'clock, the true time is

A. 3 pm B. 3.45 pm

C. 3.30 pm D. 4 pm

16. How many times are the hands of a clock at right angle in a day?

A. 48 B. 44

C. 24 D. 22

17. A watch which gains uniformly is 2 minutes low at noon on and is 4 min 48 sec fast at 2 pm on the following Monday. When was it correct?

A. 2 pm on Tuesday B. 3 pm on Wednesday

C. 2 pm on Wednesday D. 3 pm on Tuesday

18. What is the reflex angle between the hands of a clock at 10.25?

A. 195° B. 19712°

C. 180° D. 19312°

19. The angle between the minute hand and the hour hand of a clock when the time is 4.20 is

A. 10° B. 5°

C. 0° D. 1°

20. A clock is set at 5 am. If the clock loses 16 minutes in 24 hours, what will be the true time when the clock indicates 10 pm on 4th day?

A. 9.30 pm B. 10 pm

C. 10.30 pm D. 11 pm

21. What is the angle between the hour and the minute hand of a clock when the time is 3.25?

A. 47 B. 4612

C. 46 D. 4712

22. At what time between 8 and 9 o'clock will the hands of a clock are in the same straight line but not together?

A. 11811 minutes past 8 B. 10811 minutes past 8

C. 111011 minutes past 8 D. 101011 minutes past 8

23. At what time between 2 and 3 o'clock will the hands of a clock be together?

A. 91111 minutes past 2 B. 91011 minutes past 2

C. 101111 minutes past 2 D. 101011 minutes past 2

24. At what time between 5 and 6 'o clock, will the hands of a clock be at right angle?

A. 101011 minutes past 5 and 43711 minutes past 5 B. 101011 minutes past 5 and 42711 minutes past 5

C. 10911 minutes past 5 and 42711 minutes past 5 D. 10911 minutes past 5 and 42711 minutes past 5

25. The minute hand of a clock overtakes the hour hand at intervals of 65 minutes. How much a day does the clock gain or loss?

A. 109143 minutes B. 119143 minutes

C. 1110143 minutes D. 1010143 minutes

26. Find the time between 4 and 5'o clock, when the two hands of a clock are 4 minutes apart?

A. 26211 minutes past 4 and 17511 minutes past 4 B. 26111 minutes past 4 and 17511 minutes past 4

C. 26211 minutes past 4 and 17411 minutes past 4 D. 26111 minutes past 4 and 17411 minutes past 4

27. At what time between 5 and 6 will the hands of the clock coincide?

A. 26211 minutes past 5 B. 26311 minutes past 5

C. 28311 minutes past 5 D. 27311 minutes past 5

28. At what time between 6 and 7 will the hands be perpendicular

A. 48111 minutes past 6 and 16411 minutes past 6 B. 48 minutes past 6 and 16311 minutes past 6

C. 49111 minutes past 6 and 16411 minutes past 6 D. 48211 minutes past 6 and 16311 minutes past 6

29. What is the angle between the hands at 4.40?

A. 95° B. 100°

C. 120° D. 110°

30. A clock strikes 4 taking 9 seconds. In order to strike 12 at the same rate, the time taken is

A. 33 seconds B. 30 seconds

C. 36 seconds D. 27 seconds

Problems on calendar

1. What day of the week does May 28 2006 fall on

A. Saturday B. Monday

C. Sunday D. Thursday

2. What will be the day of the week 15th August, 2010?

A. Thursday B. Sunday

C. Monday D. Saturday

3. Today is Monday. After 61 days, it will be

A. Thursday B. Sunday

C. Monday D. Saturday

4. On what dates of April, 2001 did Wednesday fall?

A. 2^{nd}, 9^{th}, 16^{th}, 23^{rd} B. 4^{th}, 11^{th}, 18^{th}, 25^{th}

C. 3^{rd}, 10^{th}, 17^{th}, 24^{th} D. 1^{st}, 8^{th}, 15^{th}, 22^{nd}, 29^{th}

5. How many days are there in x weeks x days

A. 14x B. 8x

C. $7x^2$ D. 7

6. The calendar for the year 2007 will be the same for the year

A. 2017 B. 2018

C. 2014 D. 2016

7. Which of the following is not a leap year?

A. 1200 B. 800

C. 700 D. 2000

8. 01-Jan-2007 was Monday. What day of the week lies on 01-Jan-2008?

A. Wednesday B. Sunday

C. Friday D. Tuesday

9. 8th Dec 2007 was Saturday, what day of the week was it on 8th Dec, 2006?

A. Sunday B. Tuesday

C. Friday D. Tuesday

10. On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004?

A. Sunday B. Friday

C. Saturday D. Monday

11. The last day of a century cannot be

A. Monday B. Wednesday

C. Tuesday D. Friday

12. January 1, 2008 is Tuesday. What day of the week lies on Jan 1, 2009?

A. Saturday B. Wednesday

C. Thursday D. Saturday

13. If Jan 1, 2006 was a Sunday, What was the day of the week Jan 1, 2010?

A. Friday B. Thursday

C. Tuesday D. Saturday

14. What was the day of the week on 17th June 1998?

A. Monday B. Sunday

C. Wednesday D. Friday

15. 6th March, 2005 is Monday, what was the day of the week on 6th March, 2004?

A. Friday B. Saturday

C. Wednesday D. Sunday

16. What day of the week was 1 January 1901

A. Monday B. Tuesday

C. Saturday D. Friday

17. What day of the week will 22 Apr 2222 be?

A. Monday B. Tuesday

C. Sunday D. Thursday

18. Today is Thursday. The day after 59 days will be?

A. Monday B. Tuesday

C. Saturday D. Sunday

19. What is the year next to 1990 which will have the same calendar as that of the year 1990?

A. 1992 B. 2001

C. 1995 D. 1996

20. January 1, 2004 was a Thursday, what day of the week lies on January 1 2005.

A. Saturday B. Monday

C. Saturday D. Tuesday

21. If the first day of a year (other than leap year) was Friday, then which was the last day of that year?

A. Saturday B. Friday

C. Tuesday D. Monday

22. If 1st October is Sunday, then 1st November will be

A. Saturday B. Thursday

C. Wednesday D. Tuesday

23. Arun went for a movie nine days ago. He goes to watch movies only on Thursdays. What day of the week is today?

A. Wednesday B. Saturday

C. Friday D. Sunday

24. 1.12.91 is the first Sunday. Which is the fourth Tuesday of December 91?

A. 20.12.91 B. 22.12.91

C. 24.12.91 D. 25.12.91

25. If the day before yesterday was Thursday, when will Sunday be?

A. Day after tomorrow B. Tomorow

C. Two days after today D. Today

26. The second day of a month is Friday, What will be the last day of the next month which has 31 days?

A. Friday B. Saturday

C. Wednesday D. Data inadequate

27. How many days will there be from 26th January,1996 to 15th May,1996(both days included)?

A. 102 B. 103

C. 111 D. 120

28. If 25th of August in a year is Thursday, the number of Mondays in that month is

A. 4 B. 5

C. 2 D. 3

29. If the seventh day of a month is three days earlier than Friday, What day will it be on the nineteenth day of the month?

A. Saturday B. Monday

C. Sunday D. Wednesday

30. Every second Saturday and all Sundays are holidays. How many working days will be there in a month of 30 days beginning on a Saturday?

A. 24 B. 23

C. 18 D. 21

Problems on percentages

1. Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. What are the marks obtained by them?

A. 42, 33
B. 42, 36
C. 44, 33
D. 44, 36

2. If A = x% of y and B = y% of x, then which of the following is true?

A. None of these
B. A is smaller than B.
C. Relationship between A and B cannot be determined.
D. If x is smaller than y, then A is greater than B.
E. A is greater than B.

3. If 20% of a = b, then b% of 20 is the same as:

A. None of these
B. 10% of a
C. 4% of a
D. 20% of a

4. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.

A. 2 : 1
B. 1 : 2
C. 1 : 1
D. 4 : 3

5. Two employees X and Y are paid a total of Rs. 550 per week by their employer. If X is paid 120 percent of the sum paid to Y, how much is Y paid per week?

A. Rs. 150
B. Rs. 300
C. Rs. 250
D. Rs. 200

6. Rahul went to a shop and bought things worth Rs. 25, out of which 30 Paise went on sales tax on taxable purchases. If the tax rate was 6%, then what was the cost of the tax free items?

A. Rs. 15
B. Rs. 12.10
C. Rs. 19.70
D. Rs. 16.80

7. The population of a town increased from 1,75,000 to 2,62,500 in a decade. What is the average percent increase of population per year?

A. 4% B. 6%

C. 5% D. 50%

8. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

A. 57% B. 50%

C. 52% D. 60%

9. A fruit seller had some oranges. He sells 40% oranges and still has 420 oranges. How many oranges he had originally?

A. 420 B. 700

C. 220 D. 400

10. A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?

A. 45411 % B. 45 %

C. 45511 % D. 44511 %

11. What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?

A. 2023% B. 20%

C. 21% D. 2223%

12. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, what was the number of valid votes that the other candidate got?

A. 2800 B. 2700

C. 2100 D. 2500

13. In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from

each State?

A. 8200 B. 7500

C. 7000 D. 8000

14. What percent of a day is 6 hours?

A. 6.25% B. 20%

C. 25% D. 12.5%

15. A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are

A. 600 B. 500

C. 400 D. 300

16. In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is 2/3 of the number of students of 8 years of age which is 48. What is the total number of students in the school?

A. 100 B. 102

C. 110 D. 90

17. In an examination, 5% of the applicants were found ineligible and 85% of the eligible candidates belonged to the general category. If 4275 eligible candidates belonged to other categories, then how many candidates applied for the examination?

A. 28000 B. 30000

C. 32000 D. 33000

18. A student multiplied a number by 3/5 instead of 5/3.What is the percentage error in the calculation?

A. 64% B. 32%

C. 34% D. 42%

19. 270 students appeared for an examination, of which 252 passed. What is the pass percentage?

A. 9313% B. 9323%

C. 9223% D. 92%

20. John's salary was decreased by 50% and subsequently increased by 50%. How much percent does he loss?

A. 35%
B. 25%
C. 32%
D. 28%

21. How many litres of pure acid are there in 8 litres of a 20% solution?

A. 2 litres
B. 1.4 litres
C. 1 litres
D. 1.6 litres

22. The price of a car is Rs. 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received ?

A. Rs. 76,375
B. Rs. 34,000
C. Rs. 82,150
D. Rs. 70,000

23. If number x is 10% less than another number y and y is 10% more than 125, then find out the value of x.

A. 123
B. 122
C. 122.25
D. 123.75

24. A housewife saved Rs. 2.50 in buying an item on sale. If she spent Rs. 25 for the item, approximately how much percent she saved in the transaction ?

A. 9%
B. 10%
C. 7%
D. 6%

25. A pipe X is 30 meters and 45% longer than another pipe Y. find the length of the pipe Y.

A. 20.12
B. 20.68
C. 20
D. 20.5

26. On my sister's 15th birthday, she was 159 cm in height, having grown 6% since the year before. How tall was she the previous year?

A. 150 cm
B. 140 cm
C. 142 cm
D. 154 cm

27. Q as a percentage of P is equal to P as a percentage of (P + Q). Find Q as a percentage of P.

A. 62%
B. 50%
C. 75%
D. 66%

28. If the price of petrol increases by 25% and Benson intends to spend only an additional 15% on petrol, by how much % will he reduce the quantity of petrol purchased?

A. 8%
B. 7%
C. 10%
D. 6%

29. Arun got 30% of the maximum marks in an examination and failed by 10 marks. However, Sujith who took the same examination got 40% of the total marks and got 15 marks more than the passing marks. What were the passing marks in the examination?

A. 90
B. 250
C. 75
D. 85

30. 30% of the men are more than 25 years old and 80% of the men are less than or equal to 50 years old. 20% of all men play football. If 20% of the men above the age of 50 play football, what percentage of the football players are less than or equal to 50 years?

A. 60%
B. 70%
C. 80%
D. 90%

Problems on time & distance

1. A man takes 5 hours 45 min in walking to a certain place and riding back. He would have gained 2 hours by riding both ways. The time he would take to walk both ways is

A. 11 hrs
B. 8 hrs 45 min
C. 7 hrs 45 min
D. 9 hts 20 min

2. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

A. 8.2
B. 4.2
C. 6.1
D. 7.2

3. Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour?

A. 12
B. 11
C. 10
D. 9

4. A man complete a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.

A. 121 km
B. 242 km
C. 224 km
D. 112 km

5. A car traveling with 5/7 of its actual speed covers 42 km in 1 hr 40 min 48 sec. What is the actual speed of the car?

A. 30 km/hr
B. 35 km/hr
C. 25 km/hr
D. 40 km/hr

6. A man covered a certain distance at some speed. If he had moved 3 kmph faster, he would have taken 40 minutes less. If he had moved 2 kmph slower, he would have taken 40 minutes more. What is the the distance in km?

A. 36
B. 38
C. 40
D. 42

7. A and B walk around a circular track. A and B walk at a speed of 2 rounds per hour and 3 rounds per hour respectively. If they start at 8 a.m. from the same point in opposite directions,

how many times shall they cross each other before 9.30 a.m.?

A. 5 B. 6

C. 7 D. 8

8. Two boys starts from the same place walking at the rate of 5 kmph and 5.5 kmph respectively in the same direction. What time will they take to be 8.5 km apart?

A. 17 hr B. 14 hr

C. 12 hr D. 19 hr

9. In covering a distance of 30 km, Arun takes 2 hours more than Anil. If Arun doubles his speed, then he would take 1 hour less than Anil. What is Arun's speed?

A. 8 kmph B. 5 kmph

C. 4 kmph D. 7 kmph

10. A car travels first 160 km at 64 km/hr and the next 160 km at 80 km/hr. What is the average speedfor the first 320 km of the tour?

A. 70.24 km/hr B. 74. 24 km/hr

C. 71.11 km/hr D. 72.21 km/hr

11. A Man travelled a distance of 61 km in 9 hours. He travelled partly on foot at 4 km/hr and partly on bicycle at 9 km/hr. What is the distance travelled on foot?

A. 12 km B. 14 km

C. 16 km D. 18 km

12. Walking $6/7^{th}$ of his usual speed, a man is 12 minutes too late. What is the usual time taken by him to cover that distance?

A. 1 hr 42 min B. 1 hr

C. 2 hr D. 1 hr 12 min

13. A man goes to his office from his house at a speed of 3 km/hr and returns at a speed of 2 km/hr. If he takes 5 hours in going and coming, what is the distance between his house and office?

A. 3 km B. 4 km

C. 5 km D. 6 km

14. A man rides his bicycle 10 km at an average speed of 12 km/hr and again travels 12 km at an average speed of 10 km/hr. What is his average speed for the entire trip approximately?

A. 11.2 kmph B. 10 kmph

C. 10.2 kmph D. 10.8 kmph

15. An aeroplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in 123 hours, it must travel at a speed of:

A. 660 km/hr B. 680 km/hr

C. 700 km/hr D. 720 km/hr

16. A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. What is the speed of the car?

A. 80 kmph B. 102 kmph

C. 120 kmph D. 140 kmph

17. In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. What is the duration of the flight?

A. 2 hour B. 112 hour

C. 12 hour D. 1 hour

18. If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. What is the actual distance travelled by him?

A. 80 km B. 70 km

C. 60 km D. 50 km

19. The ratio between the speeds of two trains is 7 : 8. If the second train runs 400 km in 4 hours, What is the the speed of the first train?

A. 85 km/hr B. 87.5 km/hr

C. 90 km/hr D. 92.5 km/hr

20. It takes eight hours for a 600 km journey, if 120 km is done by train and the rest by car. It takes 20 minutes more, if 200 km is done by train and the rest by car. What is the ratio of the speed of the train to that of the car?

A. 3 : 4 B. 2 : 3

C. 1 : 2 D. 1 : 3

21. Arun is traveling on his cycle and has calculated to reach point A at 2 pm if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 pm?

A. 8 kmph B. 10 kmph

C. 12 kmph D. 14 kmph

22. A car travels at an average of 50 miles per hour for 212 hours and then travels at a speed of 70 miles per hour for 112 hours. How far did the car travel in the entire 4 hours?

A. 210 miles B. 230 miles

C. 250 miles D. 260 miles

23. The speed of a bus increases by 2 km after every one hour. If the distance travelling in the first one hour was 35 km. what was the total distance travelled in 12 hours?

A. 422 km B. 552 km

C. 502 km D. 492 km

24. Sound is said to travel in air at about 1100 feet per second. A man hears the axe striking the tree, $^{11}/_{5}$ seconds after he sees it strike the tree. How far is the man from the wood chopper?

A. 1800 ft B. 2810 ft

C. 3020 ft D. 2420 ft

25. An athlete runs 200 metres race in 24 seconds. What is his speed?

A. 20 km/hr B. 25 km/hr

C. 27.5 km/hr D. 30 km/hr

26. A train is moving at the speed of 80 km/hr. What is its speed in metres per second?

A. 2229 m/s
B. 22 m/s
C. 2119 m/sec
D. 21 m/s

27. The distance between two cities A and B is 330 km. A train starts from A at 8 a.m. and travel towards B at 60 km/hr. Another train starts from B at 9 a.m. and travels towards A at 75 Km/hr. At what time will they meet?

A. 10.30 a.m.
B. 10 a.m.
C. 12 noon
D. 11 a.m.

28. A man walking at the rate of 5 km/hr crosses a bridge in 15 minutes. What is the length of the bridge (in metres)?

A. 1250
B. 1280
C. 1320
D. 1340

29. A train travelled at an average speed of 100 km/hr, stopping for 3 minutes after every 75 km. How long did it take to reach its destination 600 km from the starting point?

A. 6 hrs 21 min
B. 7 hrs 14 min
C. 7 hrs 22 min
D. 6 hrs

30. A person travels from A to B at a speed of 40 km/hr and returns by increasing his speed by 50%. What is his average speed for both the trips?

A. 60 km/hr
B. 56 km/hr
C. 52 km/hr
D. 48 km/hr

31. A man in a train notices that he can count 21 telephone posts in one minute. If they are known to be 50 metres apart, at what speed is the train travelling?

A. 61 km/hr
B. 56 km/hr
C. 63 km/hr
D. 60 km/hr

32. A truck covers a distance of 550 metres in 1 minute whereas a train covers a distance of 33 kms in 45 minutes. What is the ratio of their speed?

A. 2 : 1
B. 1 : 2

C. 4 : 3 D. 3 : 4

33. A person has to cover a distance of 6 km in 45 minutes. If he covers one-half of the distance in two-thirds of the total time; to cover the remaining distance in the remaining time, what should be his speed in km/hr?

A. 14 km/hr B. 12 km/hr

C. 10 km/hr D. 8 km/hr

Problems on permutations & combinations

1. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

A. 24400 B. 21300

C. 210 D. 25200

2. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

A. 159 B. 209

C. 201 D. 212

3. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?

A. 624 B. 702

C. 756 D. 812

4. In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

A. 610 B. 720

C. 825 D. 920

5. In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

A. 47200 B. 48000

C. 42000 D. 50400

6. In how many ways can a group of 5 men and 2 women be made out of a total of 7 men and 3 women?

A. 1 B. 126

C. 63 D. 64

7. In how many different ways can the letters of the word 'MATHEMATICS' be arranged such that the vowels must always come together?

A. 9800 B. 100020

C. 120960 D. 140020

8. There are 8 men and 10 women and you need to form a committee of 5 men and 6 women. In how many ways can the committee be formed?

A. 10420 B. 11

C. 11760 D. None of these

9. How many 3-letter words with or without meaning, can be formed out of the letters of the word, 'LOGARITHMS', if repetition of letters is not allowed?

A. 720 B. 420

C. None of these D. 5040

10. In how many different ways can the letters of the word 'LEADING' be arranged such that the vowels should always come together?

A. None of these B. 720

C. 420 D. 122

11. A coin is tossed 3 times. Find out the number of possible outcomes.

A. None of these B. 8

C. 2 D. 1

12. In how many different ways can the letters of the word 'DETAIL' be arranged such that the vowels must occupy only the odd positions?

A. None of these B. 64

C. 120 D. 36

13. A bag contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the bag, if at least one black ball is to be included in the draw?

A. 64 B. 128

C. 32 D. None of these

14. In how many different ways can the letters of the word 'JUDGE' be arranged such that the vowels always come together?

A. None of these
B. 48
C. 32
D. 64

15. In how many ways can the letters of the word 'LEADER' be arranged?

A. None of these
B. 120
C. 360
D. 720

16. How many words can be formed by using all letters of the word 'BIHAR'?

A. 720
B. 24
C. 120
D. 60

17. How many arrangements can be made out of the letters of the word 'ENGINEERING' ?

A. 924000
B. 277200
C. None of these
D. 182000

18. How many 3 digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9 which are divisible by 5 and none of the digits is repeated?

A. 20
B. 16
C. 8
D. 24

19. How many words with or without meaning, can be formed by using all the letters of the word, 'DELHI' using each letter exactly once?

A. 720
B. 24
C. None of these
D. 120

20. What is the value of ${}^{100}P_2$?

A. 9801
B. 12000
C. 5600
D. 9900

21. In how many different ways can the letters of the word 'RUMOUR' be arranged?

A. None of these
B. 128
C. 360
D. 180

22. There are 6 periods in each working day of a school. In how many ways can one organize 5 subjects such that each subject is allowed at least one period?

A. 3200
B. None of these
C. 2400
D. 3600

23. How many 6 digit telephone numbers can be formed if each number starts with 35 and no digit appears more than once?

A. 720
B. 360
C. 1420
D. 1680

24. An event manager has ten patterns of chairs and eight patterns of tables. In how many ways can he make a pair of table and chair?

A. 100
B. 80
C. 110
D. 64

25. 25 buses are running between two places P and Q. In how many ways can a person go from P to Q and return by a different bus?

A. None of these
B. 600
C. 576
D. 625

26. A box contains 4 red, 3 white and 2 blue balls. Three balls are drawn at random. Find out the number of ways of selecting the balls of different colours?

A. 62
B. 48
C. 12
D. 24

27. A question paper has two parts P and Q, each containing 10 questions. If a student needs to choose 8 from part P and 4 from part Q, in how many ways can he do that?

A. None of these
B. 6020

C. 1200 D. 9450

28. In how many different ways can 5 girls and 5 boys form a circle such that the boys and the girls alternate?

A. 2880 B. 1400

C. 1200 D. 3212

29. Find out the number of ways in which 6 rings of different types can be worn in 3 fingers?

A. 120 B. 720

C. 125 D. 729

30. In how many ways can 5 man draw water from 5 taps if no tap can be used more than once?

A. None of these B. 720

C. 60 D. 120

Problems on area

1. An error 2% in excess is made while measuring the side of a square. What is the percentage of error in the calculated area of the square?

A. 4.04 %
B. 2.02 %
C. 4 %
D. 2 %

2. A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. The area of the lawn is 2109 sq. m. what is the width of the road?

A. 5 m
B. 4 m
C. 2 m
D. 3 m

3. A towel, when bleached, lost 20% of its length and 10% of its breadth. What is the percentage of decrease in area?

A. 30 %
B. 28 %
C. 32 %
D. 26 %

4. If the length of a rectangle is halved and its breadth is tripled, what is the percentage change in its area?

A. 25 % Increase
B. 25 % Decrease
C. 50 % Decrease
D. 50 % Increase

5. A person walked diagonally across a square plot. Approximately, what was the percent saved by not walking along the edges?

A. 35%
B. 30 %
C. 20 %
D. 25%

6. A rectangular field has to be fenced on three sides leaving a side of 20 feet uncovered. If the area of the field is 680 sq. feet, how many feet of fencing will be required?

A. 95
B. 92
C. 88
D. 82

7. A rectangular parking space is marked out by painting three of its sides. If the length of the unpainted side is 9 feet, and the sum of the lengths of the painted sides is 37 feet, find out the area of the parking space in square feet?

A. 126 sq. ft.
B. 64 sq. ft.
C. 100 sq. ft.
D. 102 sq. ft.

8. The area of a rectangle plot is 460 square metres. If the length is 15% more than the breadth, what is the breadth of the plot?

A. 14 metres
B. 20 metres
C. 18 metres
D. 12 metres

9. A large field of 700 hectares is divided into two parts. The difference of the areas of the two parts is one-fifth of the average of the two areas. What is the area of the smaller part in hectares?

A. 400
B. 365
C. 385
D. 315

10. The length of a room is 5.5 m and width is 3.75 m. What is the cost of paying the floor by slabs at the rate of Rs. 800 per sq. metre.

A. Rs.12000
B. Rs.19500
C. Rs.18000
D. Rs.16500.

11. The length of a rectangle is twice its breadth. If its length is decreased by 5 cm and breadth is increased by 5 cm, the area of the rectangle is increased by 75 sq.cm. What is the length of the rectangle?

A. 18 cm
B. 16 cm
C. 40 cm
D. 20 cm

12. If a square and a rhombus stand on the same base, then what is the ratio of the areas of the square and the rhombus?

A. equal to ½
B. equal to ¾
C. greater than 1
D. equal to 1

13. The breadth of a rectangular field is 60% of its length. If the perimeter of the field is 800 m, find out the area of the field.

A. 37500 m^2 B. 30500 m^2

C. 32500 m^2 D. 40000 m^2

14. A room 5m 44cm long and 3m 74cm broad needs to be paved with square tiles. What will be the least number of square tiles required to cover the floor?

A. 176 B. 124

C. 224 D. 186

15. The length of a rectangular plot is 20 metres more than its breadth. If the cost of fencing the plot @ Rs. 26.50 per metre is Rs. 5300, what is the length of the plot in metres?

A. 60 m B. 100 m

C. 75 m D. 50 m

16. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr completes one round in 8 minutes, then what is the area of the park (in sq. m)?

A. 142000 B. 112800

C. 142500 D. 153600

17. What is the percentage increase in the area of a rectangle, if each of its sides is increased by 20%?

A. 45% B. 44%

C. 40% D. 42%

18. If the difference between the length and breadth of a rectangle is 23 m and its perimeter is 206 m, what is its area?

A. 2800 m^2 B. 2740 m^2

C. 2520 m^2 D. 2200 m^2

19. The ratio between the perimeter and the breadth of a rectangle is 5 : 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle?

A. 16 cm B. 18 cm

C. 14 cm D. 20 cm

20. What is the least number of squares tiles required to pave the floor of a room 15 m 17 cm long and 9 m 2 cm broad?

A. 814 B. 802

C. 836 D. 900

21. The diagonal of the floor of a rectangular room is 712 feet. The shorter side of the room is 4 12 feet. What is the area of the room?

A. 27 square feet B. 22 square feet

C. 24 square feet D. 20 square feet

22. The diagonal of a rectangle is $41-\sqrt{}$ cm and its area is 20 sq. cm. What is the perimeter of the rectangle?

A. 16 cm B. 10 cm

C. 12 cm D. 18 cm

23. A tank is 25 m long, 12 m wide and 6 m deep. What is the cost of plastering of its walls and bottom at the rate of 75 paise per sq. m?

A. Rs. 558 B. Rs. 502

C. Rs. 516 D. Rs. 612

24. It is decided to construct a 2 metre broad pathway around a rectangular plot on the inside. If the area of the plots is 96 sq.m. and the rate of construction is Rs. 50 per square metre., what will be the total cost of the construction?

A. Rs.3500 B. Rs. 4200

C. Insufficient Data D. Rs. 4400

25. The area of a parallelogram is 72 cm^2 and its altitude is twice the corresponding base. What is the length of the base?

A. 6 cm B. 7 cm

C. 8 cm D. 12 cm

26. Two diagonals of a rhombus are 72 cm and 30 cm respectively. What is its perimeter?

A. 136 cm
B. 156 cm
C. 144 cm
D. 121 cm

27. The base of a parallelogram is (p + 4), altitude to the base is (p - 3) and the area is (p^2 - 4), find out its actual area.

A. 40 sq. units
B. 54 sq. units
C. 36 sq. units
D. 60 sq. units

28. A circle is inscribed in an equilateral triangle of side 24 cm, touching its sides. What is the area of the remaining portion of the triangle?

A. $1443\sqrt{-48\pi}$ cm^2
B. $1213\sqrt{-36\pi}$ cm^2
C. $1443\sqrt{-36\pi}$ cm^2
D. $1213\sqrt{-48\pi}$ cm^2

29. A rectangular plot measuring 90 metres by 50 metres needs to be enclosed by wire fencing such that poles of the fence will be kept 5 metres apart. How many poles will be needed?

A. 30
B. 44
C. 56
D. 60

30. If the diagonals of a rhombus are 24 cm and 10 cm, what will be its perimeter

A. 42 cm
B. 64 cm
C. 56 cm
D. 52 cm

31. What will be the length of the longest rod which can be placed in a box of 80 cm length, 40 cm breadth and 60 cm height?

A. $11600\sqrt{}$ cm
B. $14400\sqrt{}$ cm
C. $10000\sqrt{}$ cm
D. $12040\sqrt{}$ cm

Problems on numbers

1. (935421 x 625) = ?

A. 542622125 B. 584632125

C. 544638125 D. 584638125

2. Which of the following is a prime number ?

A. 9 B. 8

C. 4 D. 2

3. What is the largest 4 digit number exactly divisible by 88?

A. 9944 B. 9999

C. 9988 D. 9900

4. $\{(481 + 426)^2 - 4 \times 481 \times 426\} = ?$

A. 3025 B. 4200

C. 3060 D. 3210

5. $(64 - 12)^2 + 4 \times 64 \times 12 = ?$

A. 5246 B. 4406

C. 5126 D. 5776

6. $121 \times 5^4 = ?$

A. 68225 B. 75625

C. 72325 D. 71225

7. If $(2^{32} + 1)$ is completely divisible by a whole number, which of the following numbers is completely divisible by this number?

A. $(2^{96} + 1)$ B. (7×2^{23})

C. $(2^{16} - 1)$ D. $(2^{16} + 1)$

8. How many of the following numbers are divisible by 132 ? 264, 396, 462, 792, 968, 2178,

5184, 6336

A. 4 B. 3

C. 6 D. 8

9. All prime numbers are odd numbers

A. True B. False

10. What is the unit digit in $(6324)^{1797} \times (615)^{316} \times (341)^{476}$?

A. 1 B. 2

C. 4 D. 0

11. 5216 x 51 = ?

A. 266016 B. 212016

C. 266436 D. 216314

12. Which of the following number is divisible by 24 ?

A. 31214 B. 61212

C. 512216 D. 3125832

13. $719\times719+347\times347-719\times347719\times719\times719+347\times347\times347=?$

A. 1372 B. 25133

C. 11066 D. 56

14. If the number 481*673 is completely divisible by 9, what is the the smallest whole number in place of *?

A. 3 B. 7

C. 5 D. 9

15. If n is a natural number, then $(6n^2 + 6n)$ is always divisible by:

A. Both 6 and 12 B. 6 only

C. 12 only D. None of these

16. 109 × 109 + 91 × 91 = ?

A. 20162 B. 18322

C. 13032 D. 18662

17. When (67^{67} +67) is divided by 68, the remainder is

A. 0 B. 22

C. 33 D. 66

18. (912+643)2+(912−643)2(912×912+643×643)=?

A. 122 B. 2

C. 1 D. None of these

19. What is the smallest prime number?

A. 0 B. 1

C. 2 D. 3

20. (23341379 x 72) = ?

A. 1680579288 B. 1223441288

C. 2142579288 D. 2142339288

21. If the number 5 * 2 is divisible by 6, then * = ?

A. 2 B. 7

C. 3 D. 6

22. (1−1n)+(1−2n)+(1−3n)+...up to n terms=?

A. (n−1) B. n2

C. 12(n−1) D. 12(n+1)

23. What least number should be added to 1056, so that the sum is completely divisible by 23?

A. 4 B. 3

C. 2 D. 1

24. 1398 x 1398 = ?

A. 1624404 B. 1851404

C. 1951404 D. 1954404

25. On dividing a number by 56, we get 29 as remainder. On dividing the same number by 8, what will be the remainder ?

A. 2 B. 3

C. 4 D. 5

26. ? + 3699 + 1985 - 2047 = 31111

A. 21274 B. 27474

C. 21224 D. 27224

27. the difference between a positive fraction and its reciprocal is $^{9}/_{20}$ find the sum of that fraction and its reciprocal.

A. 4120 B. 1720

C. 1120 D. 920

28. How many 3 digit numbers are completely divisible 6 ?

A. 146 B. 148

C. 150 D. 152

29. How many natural numbers are there between 43 and 200 which are exactly divisible by 6?

A. 28 B. 26

C. 24 D. 22

30. What is the smallest 6 digit number exactly divisible by 111?

A. 100010 B. 100011

C. 100012 D. 100013

31. If x and y are positive integers such that (3x + 7y) is a multiple of 11, then which of the followings are divisible by 11?

A. 9x + 4y B. x + y + 4

C. 4x - 9y D. 4x + 6y

32. if $(64)^2 - (36)^2 = 10x$, then x = ?

A. 200 B. 220

C. 210 D. 280

33. 852×852×852−212×212×212852×852+852×212+212×212=?

A. 640 B. 620

C. 740 D. None of these

34. 2664÷12÷6=?

A. 43 B. 41

C. 37 D. 33

35. (422+404)2−(4×422×404)=?

A. None of these B. 342

C. 324 D. 312

36. Which one of the following can't be the square of natural number ?

A. 128242 B. 128881

C. 130321 D. 131044

37. (32323 + 7344 + 41330) - (317 x 91) = ?

A. 54210 B. 54250

C. 52150 D. None of these

38. $(x^n - a^n)$ is completely divisible by (x - a), if

A. n is an even natural number B. n is and odd natural number

C. n is any natural number D. n is prime

39. The number 97215*6 is completely divisible by 11. What is the smallest whole number in place of * ?

A. 4 B. 2

C. 1 D. 3

40. $(1^2 + 2^2 + 3^2 + ... + 10^2) = ?$

A. 395 B. 375

C. 55 D. 385

41. If the product 4864 × 9a2 is divisible by 12, then what is the value of a?

A. 1 B. 2

C. 5 D. 6

42. -88 × 39 + 312 = ?

A. -3120 B. -3200

C. 3120 D. 3200

43. 378 × ? = 252

A. 23 B. 34

C. 12 D. None of these

44. What least number should be subtracted from 13601 such that the remainder is divisible by 87 ?

A. 27 B. 28

C. 29 D. 30

45. Which one of the given numbers is completely divisible by 45?

A. None of these B. 165642

C. 202860 D. 112330

46. What is the remainder when 17^{200} is divided by 18 ?

A. 3 B. 2

C. 1 D. 4

47. $1^2 + 2^2 + 3^2 + ... + 8^2 = ?$

A. 204 B. 200

C. 182 D. 214

48. $1 + 2 + 3 + ... + 12 = ?$

A. 66 B. 68

C. 76 D. 78

49. $1^3 + 2^3 + 3^3 + ... + 6^3 = ?$

A. 451 B. 441

C. 421 D. 401

50. Which one of the following is a prime number ?

A. 307 B. 437

C. 247 D. 203

Problems on chain rule

1. If the cost of x metres of wire is d rupees, then what is the cost of y metres of wire at the same rate?

A. Rs. (xdy)
B. Rs. xd
C. Rs. (ydx)
D. Rs. yd

2. In a dairy farm, 40 cows eat 40 bags of husk in 40 days. In how many days one cow will eat one bag of husk?

A. 1
B. 40
C. 20
D. 26

3. If 7 spiders make 7 webs in 7 days, then how many days are needed for 1 spider to make 1 web?

A. 1
B. 7
C. 3
D. 14

4. 4 mat-weavers can weave 4 mats in 4 days. At the same rate, how many mats would be woven by 8 mat-weavers in 8 days?

A. 4
B. 16
C. 8
D. 1

5. If a quarter kg of potato costs 60 paise, how many paise does 200 gm cost?

A. 65 paise
B. 70 paise
C. 52 paise
D. 48 paise

6. In a camp, there is a meal for 120 men or 200 children. If 150 children have taken the meal, how many men will be catered to with remaining meal?

A. 50
B. 30
C. 40
D. 10

7. 36 men can complete a piece of work in 18 days. In how many days will 27 men complete the same work?

A. 26
B. 22
C. 12
D. 24

8. A wheel that has 6 cogs is meshed with a larger wheel of 14 cogs. If the smaller wheel has made 21 revolutions, what will be the number of revolutions made by the larger wheel?

A. 15 B. 12

C. 21 D. 9

9. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day should 4 pumps work in order to empty the tank in 1 day?

A. 10 B. 12

C. 8 D. 15

10. 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?

A. 9 B. 12

C. 10 D. 13

11. A certain industrial loom weaves 0.128 meters of cloth every second. Approximately how many seconds will it take for the loom to weave 25 meters of cloth?

A. 205 B. 200

C. 180 D. 195

12. A contract is to be completed in 56 days if 104 persons work, each working at 8 hours a day. After 30 days, $^{2}/_{5}$ of the work is completed. How many additional persons should be deployed so that the work will be completed in the scheduled time,each persons now working 9 hours a day.

A. 160 B. 150

C. 24 D. 56

13. x men working x hours per day can do x units of a work in x days. How much work can be completed by y men working y hours per day in y days?

A. x2y2 units B. y3x2 units

C. x3y2 units D. y2x2 units

14. 21 goats eat as much as 15 cows. How many goats each as much as 35 cows?

A. 49 B. 32

C. 36 D. 41

15. A flagstaff 17.5 m high casts a shadow of length 40.25 m. What will be the height of a building, which casts a shadow of length 28.75 m under similar conditions?

A. 12.5 m B. 10.5 m

C. 14 D. 12

16. Running at the same constant rate, 6 identical machines can produce a total of 270 bottles per minute. At this rate, how many bottles could 10 such machines produce in 4 minutes?

A. 1800 B. 900

C. 2500 D. 2700

17. A person works on a project and completes $^{5}/_{8}$ of the job in 10 days. At this rate, how many more days will he it take to finish the job?

A. 7 B. 6

C. 5 D. 4

18. A fort had provision of food for 150 men for 45 days. After 10 days, 25 men left the fort. Find out the number of days for which the remaining food will last.

A. 44 B. 42

C. 40 D. 38

19. If the price of 357 apples is Rs.1517.25, what will be the approximate price of 49 dozens of such apples?

A. Rs. 2500 B. Rs. 2300

C. Rs. 2200 D. Rs. 1400

20. On a scale of a map 0.6 cm represents 6.6km. If the distance between two points on the map is 80.5 cm , what is the the actual distance between these points?

A. 885.5 km B. 860 km

C. 892.5 km D. 825 km

21. A rope can make 70 rounds of the circumference of a cylinder whose radius of the base is 14cm. how many times can it go round a cylinder having radius 20 cm?

A. 49 rounds
B. 42 rounds
C. 54 rounds
D. 52 rounds

22. 8 persons can build a wall 140m long in 42 days. In how many days can 30 persons complete a similar wall 100 m long?

A. 12
B. 10
C. 8
D. 6

23. A certain number of persons can finish a piece of work in 100 days. If there were 10 persons less, it would take 10 more days finish the work. How many persons were there originally?

A. 90
B. 100
C. 110
D. 120

24. 9 examiners can examine a certain number of answer books in 12 days by working 5 hours a day. How many hours in a day should 4 examiners work to examine twice the number of answer books in 30 days?

A. 9
B. 10
C. 11
D. 12

25. 9 engines consume 24 metric tonnes of coal, when each is working 8 hours day. How much coal is required for 8 engines, each running 13 hours a day, if 3 engines of former type consume as much as 4 engines of latter type?

A. 20 metric tonnes
B. 22 metric tonnes
C. 24 metric tonnes
D. 26 metric tonnes

26. A garrison had provisions for a certain number of days. After 10 days, 1/5 of the men desert and it is found that the provisions will now last just as long as before. How long was that?

A. 50 days
B. 30 days
C. 40 days
D. 60 days

27. A garrison of 500 persons had provisions for 27 days. After 3 days a reinforcement of 300 persons arrived. For how many more days will the remaining food last now?

A. 12 days
B. 16 days
C. 14 days
D. 15 days

28. A hostel had provisions for 250 men for 40 days. If 50 men left the hostel, how long will the food last at the same rate?

A. 48 days
B. 50 days
C. 45 days
D. 60 days

29. in a camp, food was was sufficient for 2000 people for 54 days. After 15 days, more people came and the food last only for 20 more days. How many people came?

A. 1900
B. 1800
C. 1940
D. 2000

30. If 40 men can make 30 boxes in 20 days, How many more men are needed to make 60 boxes in 25 days?

A. 28
B. 24
C. 22
D. 26

Problems on banker's discount

1. The banker's discount on a bill due 4 months hence at 15% is Rs. 420. What is the true discount?

A. Rs. 410 B. Rs. 400

C. Rs. 390 D. Rs. 380

2. The banker's discount on a certain amount due 2 years hence is $^{11}/_{10}$ of the true discount. What is the rate percent?

A. 1% B. 5%

C. 10% D. 12%

3. The present worth of a sum due sometimes hence is Rs.5760 and the baker's gain is Rs.10. What is the true discount?

A. Rs. 480 B. Rs. 420

C. Rs. 120 D. Rs. 240

4. What is the banker's discount if the true discount on a bill of Rs.540 is Rs.90 ?

A. Rs. 108 B. Rs. 120

C. Rs. 102 D. Rs. 106

5. A bill for Rs. 3000 is drawn on 14th July at 5 months. It is discounted on 5th October at 10%. What is the Banker's Discount?

A. Rs. 60 B. Rs. 82

C. Rs. 90 D. Rs. 120

6. The bankers discount and the true discount of a sum at 10% per annum simple interest for the same time are Rs.100 and Rs.80 respectively. What is the sum and the time?

A. Sum = Rs.400 and Time = 5 years B. Sum = Rs.200 and Time = 2.5 years

C. Sum = Rs.400 and Time = 2.5 years D. Sum = Rs.200 and Time = 5 years

7. The banker's gain on a sum due 6 years hence at 12% per annum is Rs. 540. What is the banker's discount?

A. 1240 B. 1120

C. 1190 D. 1290

8. The present worth of a certain bill due sometime hence is Rs. 1296 and the true discount is Rs. 72. What is the banker's discount?

A. Rs. 76 B. Rs. 72

C. Rs. 74 D. Rs. 4

9. The banker's discount of a certain sum of money is Rs. 36 and the true discount on the same sum for the same time is Rs. 30. What is the sum due?

A. Rs. 180 B. Rs. 120

C. Rs. 220 D. Rs. 200

10. The banker's gain on a bill due 1 year hence at 10% per annum is Rs. 20. What is the true discount?

A. Rs. 200 B. Rs. 100

C. Rs. 150 D. Rs. 250

11. The banker's gain of a certain sum due 3 years hence at 10% per annum is Rs. 36. What is the present worth ?

A. Rs. 400 B. Rs. 300

C. Rs. 500 D. Rs. 350

12. The present worth of a certain sum due sometime hence is Rs. 3400 and the true discount is Rs. 340. The banker's gain is:

A. Rs. 21 B. Rs. 17

C. Rs. 18 D. Rs. 34

13. The banker's discount on Rs. 1600 at 15% per annum is the same as true discount on Rs. 1680 for the same time and at the same rate. What is the time?

A. 3 months B. 4 months

C. 5 months D. 6 months

14. The banker's gain on a certain sum due 212 years hence is 925 of the banker's discount. What is the rate percent?

A. 1813%
B. 1812%
C. 2413%
D. 2212%

15. The banker's gain on a sum due 3 years hence at 12% per annum is Rs. 360. The banker's discount is:

A. Rs. 1360
B. Rs. 1000
C. Rs. 360
D. Rs. 640

16. The true discount on a certain sum due 6 months hence at 15% is Rs. 240. What is the banker's discount on the same sum for the same time at the same rate?

A. None of these
B. Rs. 278
C. Rs. 228
D. Rs. 258

17. A bill is discounted at 10% per annum. If banker's discount is allowed, at what rate percent should the proceeds be invested so that nothing will be lost?

A. 1019%
B. 1119%
C. 11
D. 1029%

18. A banker paid Rs.5767.20 for a bill of Rs.5840, drawn of Apr 4 at 6 months. If the rate of interest was 7%, what was the day on which the bill was discounted?

A. 3rd March
B. 3rd September
C. 3rd October
D. 3rd August

19. The banker's discount on a sum of money for 3 years is Rs. 1116. The true discount on the same sum for 4 years is Rs. 1200. What is the rate per cent?

A. 8%
B. 12%
C. 10%
D. 6%

20. The true discount on a bill of Rs. 2160 is Rs. 360. What is the banker's discount?

A. Rs. 432
B. Rs. 422
C. Rs. 412
D. Rs. 442

21. The banker's gain of a certain sum due 2 years hence at 10% per annum is Rs. 24. What is the present worth?

A. Rs. 600 B. Rs. 500

C. Rs. 400 D. Rs. 300

22. The true discount on a bill for Rs. 2520 due 6 months hence at 10% per annum is

A. Rs. 180 B. Rs. 140

C. Rs. 80 D. Rs. 120

23. What is the present worth of a bill of Rs.1764 due 2 years hence at 5% compound interest is

A. Rs. 1600 B. Rs. 1200

C. Rs. 1800 D. Rs. 1400

24. If the discount on Rs. 498 at 5% simple interest is Rs.18, when is the sum due?

A. 8 months B. 11 months

C. 10 months D. 9 months

25. What is the difference between the banker's discount and the true discount on Rs.8100 for 3 months at 5%

A. Rs. 2 B. Rs. 1.25

C. Rs. 2.25 D. Rs. 0.5

26. The B.G. on a certain sum 4 years hence at 5% is Rs. 200. What is the present worth?

A. Rs. 4500 B. Rs. 6000

C. Rs. 5000 D. Rs. 4000

27. The B.D. and T.D. on a certain sum is Rs.200 and Rs.100 respectively. Find out the sum.

A. Rs. 400 B. Rs. 300

C. Rs. 100 D. Rs. 200

28. The banker's discount on a bill due 6 months hence at 6% is Rs. 18.54. What is the true discount?

A. Rs. 24
B. Rs. 12
C. Rs. 36
D. Rs. 18

29. The banker's discount on a sum of money for 112 years is Rs. 120. The true discount on the same sum for 2 years is Rs.150. What is the rate per cent?

A. 313%
B. 413%
C. 323%
D. 423%

30. The present worth of a certain bill due sometime hence is Rs. 400 and the true discount is Rs. 20. What is the banker's discount?

A. Rs. 19
B. Rs. 22
C. Rs. 20
D. Rs. 21

Problems on H.C.F & L.C.M

1. Two numbers are in the ratio 2 : 3. If their L.C.M. is 48. what is sum of the numbers?

A. 28 B. 40

C. 64 D. 42

2. What is the greatest number of four digits which is divisible by 15, 25, 40 and 75 ?

A. 9800 B. 9600

C. 9400 D. 9200

3. Three numbers are in the ratio of 2 : 3 : 4 and their L.C.M. is 240. Their H.C.F. is:

A. 40 B. 30

C. 20 D. 10

4. What is the lowest common multiple of 12, 36 and 20?

A. 160 B. 220

C. 120 D. 180

5. What is the least number which when divided by 5, 6, 7 and 8 leaves a remainder 3, but when divided by 9 leaves no remainder?

A. 1108 B. 1683

C. 2007 D. 3363

6. The H.C.F. of two numbers is 5 and their L.C.M. is 150. If one of the numbers is 25, then the other is:

A. 30 B. 28

C. 24 D. 20

7. 504 can be expressed as a product of primes as

A. $2 \times 2 \times 3 \times 3 \times 7 \times 7$ B. $2 \times 3 \times 3 \times 3 \times 7 \times 7$

C. $2 \times 3 \times 3 \times 3 \times 3 \times 7$ D. $2 \times 2 \times 2 \times 3 \times 3 \times 7$

8. Which of the following integers has the most number of divisors?

A. 101 B. 99

C. 182 D. 176

9. The least number which should be added to 28523 so that the sum is exactly divisible by 3, 5, 7 and 8 is

A. 41 B. 42

C. 32 D. 37

10. What is the least number which when doubled will be exactly divisible by 12, 14, 18 and 22 ?

A. 1286 B. 1436

C. 1216 D. 1386

11. What is the greatest possible length which can be used to measure exactly the lengths 8 m, 4 m 20 cm and 12 m 20 cm?

A. 10 cm B. 30 cm

C. 25 cm D. 20 cm

12. Which of the following fraction is the largest ?

A. 1112 B. 4150

C. 2140 D. 56

13. The product of two 2 digit numbers is 2028 and their HCF is 13. What are the numbers ?

A. 26, 78 B. 39, 52

C. 13, 156 D. 36, 68

14. The product of two numbers is 2028 and their HCF is 13. What are the number of such pairs?

A. 4 B. 3

C. 2 D. 1

15. N is the greatest number which divides 1305, 4665 and 6905 and gives the same remainder in each case. What is the sum of the digits in N?

A. 4 B. 3

C. 6 D. 5

16. A boy divided the numbers 7654, 8506 and 9997 by a certain largest number and he gets same remainder in each case. What is the common remainder?

A. 156 B. 199

C. 211 D. 231

17. Find the greatest common divisor of 24 and 16

A. 6 B. 2

C. 4 D. 8

18. A, B and C start at the same time in the same direction to run around a circular stadium. A completes a round in 252 seconds, B in 308 seconds and c in 198 seconds, all starting at the same point. After what time will they again at the starting point ?

A. 36 minutes 22 seconds B. 46 minutes 22 seconds

C. 36 minutes 12 seconds D. 46 minutes 12 seconds

19. The ratio of two numbers is 4 : 5. If the HCF of these numbers is 6, what is their LCM?

A. 30 B. 60

C. 90 D. 120

20. What is the HCF of 2.04, 0.24 and 0.8 ?

A. 1 B. 2

C. 0.02 D. 0.04

21. If HCF of two numbers is 11 and the product of these numbers is 363, what is the the greater number?

A. 9 B. 22

C. 33 D. 11

22. What is the greatest number which on dividing 1223 and 2351 leaves remainders 90 and 85 respectively?

A. 1133 B. 127

C. 42 D. 1100

23. What is the least multiple of 7 which leaves a remainder of 4 when divided by 6, 9, 15 and 18 ?

A. 364 B. 350

C. 343 D. 371

24. Three numbers which are co-prime to each other are such that the product of the first two is 119 and that of the last two is 391. What is the sum of the three numbers?

A. 47 B. 43

C. 53 D. 51

25. Reduce 43294662to its lowest terms

A. 713 B. 1317

C. 1314 D. 712

26. What is the greatest number which divides 24, 28 and 34 and leaves the same remainder in each case?

A. 1 B. 2

C. 3 D. 4

27. Six bells start ringing together and ring at intervals of 4, 8, 10, 12, 15 and 20 seconds respectively. how many times will they ring together in 60 minutes ?

A. 31 B. 15

C. 16 D. 30

28. What is the least number which when divided by 8, 12, 15 and 20 leaves in each case a remainder of 5 ?

A. 125 B. 117

C. 132 D. 112

29. The HCF of two numbers is 23 and the other two factors of their LCM are 13 and 14. What is the largest number?

A. 312 B. 282

C. 299 D. 322

30. What is the smallest number which when diminished by 12, is divisible 8, 12, 22 and 24?

A. 276 B. 264

C. 272 D. 268

31. What is the HCF of 13, 23 and 14 ?

A. 23 B. 13

C. 14 D. 112

32. What is the LCM of 23, 56 and 49 ?

A. 310 B. 320

C. 103 D. 203

Problems on surds & indices

1. $(132)^7 \times (132)^{?} = (132)^{11.5}$.

A. 3 B. 3.5

C. 4 D. 4.5

2. (ab)x−2=(ba)x−7. What is the value of x ?

A. 3 B. 3.5

C. 4 D. 4.5

3. If $7^{(x - y)} = 343$ and $7^{(x + y)} = 16807$, what is the value of x?

A. 4 B. 3

C. 2 D. 1

4. $(0.04)^{-2.5} = ?$

A. 125 B. 25

C. 3125 D. 625

5. $(6)^{6.5} \times (36)^{4.5} \div (216)^{4.5} = (6)^{?}$

A. 1 B. 2

C. 4 D. 6

6. 11+P(n−m)+11+P(m−n)=?

A. 2 B. 11+P

C. 1 D. 1P

7. If x=(8+37√), what is the value of (x√−1x√)?

A. 12−−√ B. 4

C. 2 D. 14−−√

8. if $6^m = 46656$, What is the value of 6^{m-2}

A. 36 B. 7776

C. 216 D. 1296

9. $10^{222} \div 10^{220} = ?$

A. 10 B. 100

C. 1000 D. 10000

10. If m and n are whole numbers and $m^n = 196$, what is the value of $(m - 3)^{(n+1)}$?

A. 2744 B. 1

C. 121 D. 1331

11. $(1024)n/5 \times 42n + 116n \times 4n - 1 = ?$

A. 256 B. 64

C. 16 D. 9

12. If $(ab)x - 4 = (ba)x - 8$, what is the value of x?

A. 4 B. 6

C. 8 D. 10

13. If $100^{0.20} = x$, $10^{0.60} = y$ and $x^z = y^2$, what is the value of z?

A. 3 B. 6

C. 4.2 D. 2.2

14. $(xqxr)(q + r - p).(xrxp)(r + p - q).(xpxq)(p + q - r) = ?$

A. $x^{(a - b - c)}$ B. .5

C. 1 D. $x^{(a + b + c)}$

15. $11 + x(q - p) + x(r - p) + 11 + x(p - q) + x(r - q) + 11 + x(q - r) + x(p - r) = ?$

A. 0 B. 1

C. .5 D. 2

16. $6561^{0.14} \times 6561^{0.11} = ?$

A. 16 B. 9

C. 4 D. 1

17. What is the value of $(2 \times 4 \times 5)^{5n}$

A. $2^{5n} + 4^{5n} + 5^{5n}$ B. $(40^5)^n$

C. $(40)^{5n}$ D. $(40n)^5$

18. If $(3\sqrt{})n=6561$, $(n)3/2 = ?$

A. 64 B. $643\sqrt{}$

C. $163\sqrt{}$ D. 16

19. $5^x \times 2^3 = 36.\ 5^{(x+1)} = ?$

A. 22 B. 21

C. 20.5 D. 22.5

20. 36120=(36×x)40. What is the value of x?

A. 4^4 B. 4^4

C. 6^2 D. 6^4

21. $(6561)^{(1/2)} + (6561)^{(1/4)} + (6561)^{(1/8)} = ?$

A. 98 B. 86

C. 93 D. 81

22. $3n--\sqrt{}=6561.3n\sqrt{} = ?$

A. 81 B. 9

C. 16 D. 25

23. If $5^{(a+b)} = 5 \times 25 \times 125$, what is $(a + b)^2$

A. 12 B. 16

C. 34 D. 36

24. $(7^{-1} - 11^{-1}) + (7^{-1} + 11^{-1}) = ?$

A. 2×7^{-1} B. 2×11^{-1}

C. 14 D. 22

25. $(5)^{1.25} \times (12)^{0.25} \times (60)^{0.75} = ?$

A. 420 B. 260

C. 200 D. 300

26. $36 \times 36 \times 36 \times 36 = 6^{?}$

A. 10 B. 8

C. 4 D. 6

27. What is the value of $(7^{-14} - 7^{-15})$?

A. 6×7^{-15} B. 6×7^{-14}

C. 7×7^{-15} D. 7×7^{-14}

28. If $3^{(n+4)} - 3^{(n+2)} = 8$, What is the value of n?

A. 0 B. -1

C. -2 D. 2

29. If 2x=1024−−−−√7, what is the value of x ?

A. None of these B. -7/10

C. 10/7 D. 7/10

30. [(3−2−5−2)17÷(3−2−5−2)18]1/2=?

A. 154 B. 415

C. 74 D. 47

Problems on probability

1. A bag contains 2 yellow, 3 green and 2 blue balls. Two balls are drawn at random. What is theprobability that none of the balls drawn is blue?

A. 12 B. 1021

C. 911 D. 711

2. A die is rolled twice. What is the probability of getting a sum equal to 9?

A. 23 B. 29

C. 13 D. 19

3. Three coins are tossed. What is the probability of getting at most two tails?

A. 78 B. 18

C. 12 D. 17

4. When tossing two coins once, what is the probability of heads on both the coins?

A. 14 B. 12

C. 34 D. None of these

5. What is the probability of getting a number less than 4 when a die is rolled?

A. 12 B. 16

C. 13 D. 14

6. A bag contains 4 black, 5 yellow and 6 green balls. Three balls are drawn at random from the bag. What is the probability that all of them are yellow?

A. 291 B. 181

C. 18 D. 281

7. One card is randomly drawn from a pack of 52 cards. What is the probability that the card drawn is a face card(Jack, Queen or King)

A. 113 B. 213

C. 313 D. 413

8. A dice is thrown. What is the probability that the number shown in the dice is divisible by 3?

A. 16 B. 13

C. 14 D. 12

9. John draws a card from a pack of cards. What is the probability that the card drawn is a card of black suit?

A. 12 B. 14

C. 13 D. 113

10. There are 15 boys and 10 girls in a class. If three students are selected at random, what is the probability that 1 girl and 2 boys are selected?

A. 140 B. 12

C. 2146 D. 742

11. What is the probability of selecting a prime number from 1,2,3,... 10 ?

A. 25 B. 15

C. 35 D. 17

12. 3 balls are drawn randomly from a bag contains 3 black, 5 red and 4 blue balls. What is the probability that the balls drawn contain balls of different colors?

A. 311 B. 13

C. 12 D. 211

13. 5 coins are tossed together. What is the probability of getting exactly 2 heads?

A. 12 B. 516

C. 411 D. 716

14. What is the probability of drawing a "Queen" from a deck of 52 cards?

A. 12 B. 113

C. 16 D. 13

15. A card is randomly drawn from a deck of 52 cards. What is the probability getting an Ace or

King or Queen?

A. 313 B. 213

C. 113 D. 12

16. A card is randomly drawn from a deck of 52 cards. What is the probability getting a five of Spade or Club?

A. 152 B. 113

C. 126 D. 112

17. When two dice are rolled, what is the probability that the sum is either 7 or 11?

A. 14 B. 25

C. 19 D. 29

18. A card is randomly drawn from a deck of 52 cards. What is the probability getting either a King or a Diamond?

A. 413 B. 213

C. 13 D. 12

19. John and Dani go for an interview for two vacancies. The probability for the selection of John is 1/3 and whereas the probability for the selection of Dani is 1/5. What is the probability that none of them are selected?

A. 35 B. 712

C. 815 D. 15

20. John and Dani go for an interview for two vacancies. The probability for the selection of John is 1/3 and whereas the probability for the selection of Dani is 1/5. What is the probability that only one of them is selected?

A. 35 B. None of these

C. 25 D. 15

21. A letter is randomly taken from English alphabets. What is the probability that the letter selected is not a vowel?

A. 525 B. 225

C. 526 D. 2126

22. The probability A getting a job is 1/5 and that of B is 1/7 . What is the probability that only one of them gets a job?

A. 1135 B. 1235

C. 27 D. 17

23. A letter is chosen at random from the word 'ASSASSINATION'. What is the probability that it is a vowel?

A. 413 B. 813

C. 713 D. 613

24. A letter is chosen at random from the word 'ASSASSINATION'. What is the probability that it is a consonant?

A. 413 B. 813

C. 713 D. 613

25. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

A. 120 B. 920

C. 420 D. 14

26. One ball is picked up randomly from a bag containing 8 yellow, 7 blue and 6 black balls. What is the probability that it is neither yellow nor black?

A. 13 B. 14

C. 12 D. 34

27. Two cards are drawn together from a pack of 52 cards. The probability that one is a club and one is a diamond?

A. 1351 B. 152

C. 13102 D. 126

28. Two cards are drawn together at random from a pack of 52 cards. What is the probability of

both the cards being Queens?

A. 152 B. 1221

C. 2221 D. 126

29. Two dice are rolled together. What is the probability of getting two numbers whose product is even?

A. 1736 B. 13

C. 34 D. 1125

30. When two dice are tossed, what is the probability that the total score is a prime number?

A. 14 B. 13

C. 23 D. 512

Problems on simplification

1. The price of 80 apples is equal to that of 120 oranges. The price of 60 apples and 75 oranges together is Rs.1320. The total price of 25 apples and 40 oranges is

A. Rs. 660 B. Rs. 620

C. Rs. 820 D. Rs. 780

2. The price of 24 apples is equal to that of 28 oranges. The price of 45 apples and 60 oranges together is Rs.1350. The total price of 30 apples and 40 oranges is

A. Rs.920 B. Rs.940

C. Rs.880 D. Rs.900

3. There are two buildings P and Q. If 15 persons are sent from P to Q, then the number of persons in each building is the same. If 20 persons are sent from Q to P, then the number of persons in P is double the number of persons in Q. How many persons are there in building P?

A. 80 B. 140

C. 120 D. 90

4. The price of 3 tables and 4 chairs is Rs. 3300. With the same money one can buy 2 tables and 10 chairs. If one wants to buy 1 table and 1 chair, how much does he need to pay?

A. Rs.940 B. Rs.1050

C. Rs.1040 D. Rs.950

5. There are 6 working days in a regular week and for each day, the working hours are 10. A man earns Rs. 2.10 per hour for regular work and Rs. 4.20 per hour for overtime. If he earns Rs.525 in 4 weeks, how many hours did he work?

A. 245 B. 285

C. 275 D. 255

6. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be

A. 22 B. 24

C. 26 D. 20

7. A sum of Rs.2200 has been divided among A, B and C such that A gets 1/4 of what B gets and B gets 1/5 of what C gets. What is B's share?

A. Rs.341 B. Rs.364

C. Rs.372 D. Rs.352

8. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has missed 27 times, A has killed:

A. 30 birds B. 22 birds

C. 18 birds D. 38 birds

9. If $p - q = 6$ and $p^2 + q^2 = 116$, what is the value of pq?

A. 30 B. 40

C. 20 D. 50

10. To fill a tank, 25 buckets of water is required. How many buckets of water will be required to fill the same tank if the capacity of the bucket is reduced to two-fifth of its present?

A. 63 B. 64.5

C. 62.5 D. 60.5

11. John gets on the elevator at the 14^{th} floor of a building and rides up at the rate of 84 floors per minute. At the same time, Vinod gets on an elevator at the 58^{th} floor of the same building and rides down at the rate of 92 floors per minute. If they continue travelling at these rates, then at which floor will their paths cross?

A. 38 B. 36

C. 32 D. 35

12. A man has Rs. 312 in the denominations of one-rupee notes, five-rupee notes and twenty-rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has ?

A. 36 B. 24

C. 28 D. 32

13. Free notebooks were distributed equally among children of a class. The number of notebooks each child got was one-eighth of the number of children. Had the number of children been half,

each child would have got 16 notebooks. Total how many notebooks were distributed?

A. 602 B. 528

C. 423 D. 512

14. Eight people are planning to share equally the cost of a rental car. If one person withdraws from the arrangement and the others share equally the entire cost of the car, then the share of each of the remaining persons increased by:

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16. One-third of Rahul's savings in National Savings Certificate is equal to one-half of his savings in Public Provident Fund. If he has Rs. 1,80,000 as total savings, how much has he saved in Public Provident Fund?

A. Rs. 72000 B. Rs. 44000

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A. 4 B. 1

C. 0 D. 2

18. 20 + 20 × 2 = ?

A. 40 B. 50

C. 60 D. 70

19. 25 / 5 × 5 = ?

A. 25 B. 15

C. 20 D. 30

20. 5 × 5 / 5 = ?

A. 5 B. 1

C. 10 D. 25

21. b - [b -(a+b) - {b - (b - a+b)} + 2a] = ?

A. 0 B. 4a

C. a D. -2a

22. 213+312+414 = ?

A. 10112 B. 1016

C. 1014 D. 1012

23. If a * b = 2a - 4b + 2ab, then 2*3 + 3*2 = ?

A. 2 B. 0

C. 14 D. 12

24. 14+14+14+14=?

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C. 72305 D. 81320

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Problems on logarithms

1. Which of the following statements is not correct?
A. $\log(2\times4\times6) = \log 2 + \log 4 + \log 6$ B. $\log_5 1 = 0$
C. $\log(3+4) = \log(3 \times 4)$ D. $\log_5 5 = 1$

2. $\text{Log}_5(0) = ?$
A. None of these B. 5
C. 0 D. 1

3. $\log 5\sqrt{\log 5} = ?$
A. 12 B. $15\sqrt{}$
C. 14 D. 18

4. $\log 6\sqrt{\log 6\sqrt{3}} = ?$
A. 13 B. 12
C. 32 D. 23

5. If $\log ab+\log ba=\log(a+b)$, then
A. a = b B. a + b = 1
C. a - b = 1 D. $a^2 - b^2 = 1$

6. If log(64)= 1.806, log(16) = ?
A. 1.204 B. 0.903
C. 1.806 D. None of these

7. If log 2 = 0.3010 and log 3 = 0.4771, What is the value of $\log_5 1024$?
A. 4.31 B. 3.88
C. 3.91 D. 2.97

8. if log 2 = 0.30103 and log 3 = 0.4771, find the number of digits in $(648)^5$.
A. 15 B. 14

C. 13 D. 12

9. if log 2 = 0.30103, the number of digits in 2^{128} is

A. 38 B. 39

C. 40 D. 41

10. logx(932)=−18, find the value of x

A. (932)8 B. (932)2

C. (329)8 D. (329)2

11. logx(94)=−12, find the value of x

A. 8116 B. 169

C. 1681 D. 916

12. if $a^x = b^y$, then

A. logalogb=xy B. None of these

C. logab=xy D. logalogb=yx

13. $\log_2 512 = ?$

A. 10 B. 6

C. 9 D. 8

14. If $\log_x y = 10$ and $\log_2 x = 1000$, what is the value of y?

A. 2^{100} B. 2^{1000}

C. 2^{10000} D. 2^{10}

15. if $\log_{10}2 = 0.3010$, what is the value of $\log_{10}1600$?

A. None of these B. 5.204

C. 1.204 D. 3.204

16. 1log248+1log448+1log648 = ?

A. -1 B. 2

C. 0 D. 1

17. If $\log_{10} 5 + \log_{10} (5x + 1) = \log_{10} (x + 5) + 1$, then x is equal to:

A. 4 B. 3

C. 2 D. 1

18. If log102 = a, what is the value of log10(1200)

A. -(a+2) B. -(a+1)

C. (a+2) D. (a+1)

19. If $\log_{10} 3 = 0.4771$, then $\log_3 10$ is

A. 10004771 B. 100004771

C. 1.4313 D. 0.4771

20. If $\log_5 (x^2+x) - \log_5 (x+1) = 3$, find the value of x

A. 25 B. 125

C. 1/125 D. 1/25

21. Find the value of13log10125−2log104+log1032

A. 0 B. 1

C. 2 D. 3

22. log(a2bc)+log(b2ac)+log(c2ab)= ?

A. None of these B. abc

C. 1 D. 0

23. if $\log_2 x = -6$, x is equal to :

A. 64 B. 164

C. 132 D. 32

24. If $\log 4x + \log 2x = 12$, then x is equal to:

A. 1024 B. 256

C. 8 D. 16

25. $\log_{(.001)} (100) = ?$

A. −23 B. 32

C. −32 D. None of these

26. $\log_5 200 \times \log_{200} 125$ equals :

A. 5 B. 25

C. 3 D. 6

27. If $\log_{100}[\log_3(\log_2 x)] = 1$, x is equal to:

A. None of these B. 1

C. $2^{(3100)}$ D. $3^{(22)}$

28. If $\log_2[\log_3(\log_2 x)] = 1$, x is equal to:

A. 512 B. None of these

C. 256 D. 1024

29. $(\log_3 4)\ (\log_4 5)\ (\log_5 6)\ (\log_6 7)\ (\log_7 8)\ (\log_8 9)\ (\log_9 9) = ?$

A. 4 B. 0

C. 2 D. 1

30. $\log_{(-2)}(-2) = ?$

A. None of these B. -1

C. 0 D. 1

Problems on simplification

1. The price of 80 apples is equal to that of 120 oranges. The price of 60 apples and 75 oranges together is Rs.1320. The total price of 25 apples and 40 oranges is

A. Rs. 660 B. Rs. 620

C. Rs. 820 D. Rs. 780

2. The price of 24 apples is equal to that of 28 oranges. The price of 45 apples and 60 oranges together is Rs.1350. The total price of 30 apples and 40 oranges is

A. Rs.920 B. Rs.940

C. Rs.880 D. Rs.900

3. There are two buildings P and Q. If 15 persons are sent from P to Q, then the number of persons in each building is the same. If 20 persons are sent from Q to P, then the number of persons in P is double the number of persons in Q. How many persons are there in building P?

A. 80 B. 140

C. 120 D. 90

4. The price of 3 tables and 4 chairs is Rs. 3300. With the same money one can buy 2 tables and 10 chairs. If one wants to buy 1 table and 1 chair, how much does he need to pay?

A. Rs.940 B. Rs.1050

C. Rs.1040 D. Rs.950

5. There are 6 working days in a regular week and for each day, the working hours are 10. A man earns Rs. 2.10 per hour for regular work and Rs. 4.20 per hour for overtime. If he earns Rs.525 in 4 weeks, how many hours did he work?

A. 245 B. 285

C. 275 D. 255

6. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be

A. 22 B. 24

C. 26 D. 20

7. A sum of Rs.2200 has been divided among A, B and C such that A gets 1/4 of what B gets and B gets 1/5 of what C gets. What is B's share?

A. Rs.341 B. Rs.364

C. Rs.372 D. Rs.352

8. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has missed 27 times, A has killed:

A. 30 birds B. 22 birds

C. 18 birds D. 38 birds

9. If $p - q = 6$ and $p^2 + q^2 = 116$, what is the value of pq?

A. 30 B. 40

C. 20 D. 50

10. To fill a tank, 25 buckets of water is required. How many buckets of water will be required to fill the same tank if the capacity of the bucket is reduced to two-fifth of its present?

A. 63 B. 64.5

C. 62.5 D. 60.5

11. John gets on the elevator at the 14^{th} floor of a building and rides up at the rate of 84 floors per minute. At the same time, Vinod gets on an elevator at the 58^{th} floor of the same building and rides down at the rate of 92 floors per minute. If they continue travelling at these rates, then at which floor will their paths cross?

A. 38 B. 36

C. 32 D. 35

12. A man has Rs. 312 in the denominations of one-rupee notes, five-rupee notes and twenty-rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has ?

A. 36 B. 24

C. 28 D. 32

13. Free notebooks were distributed equally among children of a class. The number of notebooks each child got was one-eighth of the number of children. Had the number of children been half,

each child would have got 16 notebooks. Total how many notebooks were distributed?

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