

Louisiana Believes

# Grade 5 Math Practice Test

2013-2014

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For further information, contact:  
Louisiana Department of Education's Help Desk  
1-877-453-2721  
Ask LDOE?

<http://www.louisianabelieves.com/resources/contact-us>

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# iLEAP Practice Test—Grade 5 Math

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## Test Administrator Instructions

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- ★ This document contains a Practice Test that shows what each part, or session, of an actual grade 5 math assessment is like.

The Practice Test may be used at home or at school for students to become familiar with the iLEAP test they will take in spring 2014. It may help students feel more relaxed when they take the actual test.

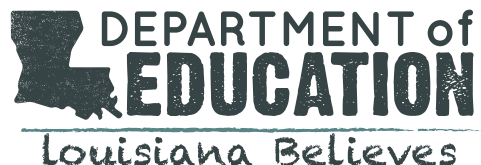
- ★ The Assessment Structure provides information on the overall design of the actual test. The Assessment Structure and example items can be found on the Louisiana Department of Education’s website.

<http://www.louisianabelieves.com/resources/library/assessment-guidance-2013-2014>

The mathematics test has three sessions to be taken separately:

- Session 1 (pages 3 to 17) includes 30 multiple-choice questions—a calculator may not be used.
  - Session 2 (pages 19 to 28) includes 20 multiple-choice questions—a calculator may be used.
  - Session 3 (pages 30 to 33) includes 2 constructed-response questions—a calculator may be used.
- ★ A Mathematics Reference Sheet, which students may use for all sessions, is located on page 36.
  - ★ Students respond to multiple-choice items using the Answer Sheets on pages 34 and 35 and constructed-response items using pages 30 to 33 of Session 3.
  - ★ The Answer Keys and Scoring Rubrics, used to score student responses, are located on pages 37 to 40.

When printing the PDF files for the three Math Sessions, be sure to set the *Page Scaling* drop-down menu on the Print screen to None, No Scaling, or Actual Size depending on the printer you are using. Otherwise, measurement items may not be the correct size, which may impact student responses.



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## Math—Sessions 1, 2, and 3

### GENERAL INSTRUCTIONS

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The Math test has three sessions, two with multiple-choice questions and one with constructed-response questions. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

## Session 1—Math (No Calculator)

Write your answers for questions 1 through 30 in the spaces provided on page 34, session 1 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.



**You may NOT use a calculator for this session.**

1. Julia collects colored beads for craft projects. Of Julia's beads,  $\frac{4}{9}$  are silver,  $\frac{1}{5}$  are gold, and  $\frac{1}{4}$  are blue. The rest of the beads are red. Which expression gives the **closest** estimate of the fraction of red beads Julia has?

A.  $1 - \frac{1}{2} - \frac{1}{2} - \frac{1}{2}$

B.  $1 - \frac{2}{3} - \frac{1}{3} - \frac{1}{3}$

C.  $1 - \frac{1}{4} - \frac{1}{4} - \frac{1}{4}$

D.  $1 - \frac{2}{5} - \frac{1}{5} - \frac{1}{5}$

2. There are 2,817 homes in the town of West Valley. Each home uses an average of 380 gallons of water each day. Use the expression below to find the total number of gallons of water the homes in West Valley use on average each day.

$$2,817 \times 380$$

What is the total number of gallons of water the homes in West Valley use on average each day?

- A. 860,460 gallons  
B. 870,460 gallons  
C. 1,060,460 gallons  
D. 1,070,460 gallons

## Session 1—Math (No Calculator)

3. Sara poured  $1\frac{1}{8}$  cups of lemonade into each of 5 glasses. What was the total amount of lemonade Sara poured into the 5 glasses?

- A.  $3\frac{7}{8}$  cups
- B.  $5\frac{1}{8}$  cups
- C.  $5\frac{5}{8}$  cups
- D.  $6\frac{1}{8}$  cups

4. Each member of Mark's school band sold the same number of tickets to their concert. Altogether the members of the school band sold a total of 442 tickets. There are 34 members of the band. To determine the number of tickets each member sold, Mark used the model shown.

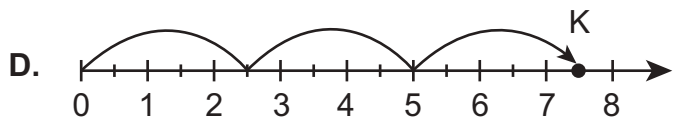
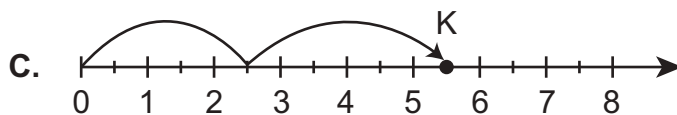
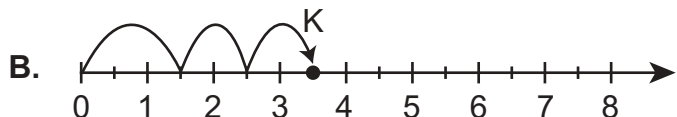
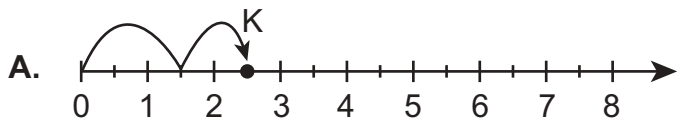
$442 \div 34$	10	10	10	1	1	1	1
?	100	100	100	10	10	10	10
	10	10	10	1	1	1	1
	10	10	10	1	1	1	1
	10	10	10	1	1	1	1

How many tickets did each member of Mark's school band sell?

- A. 13 tickets
- B. 34 tickets
- C. 408 tickets
- D. 440 tickets

## Session 1—Math (No Calculator)

5. Kara went running 3 times this week. Each time, she ran 2.5 miles. Which number line has point K graphed so that it **best** represents the total distance Kara ran, in miles?



6. A theater collected \$6 for each ticket sold to a movie. The theater sold 500 tickets to the movie. The expression below can be used to find how much money the theater collected for the tickets.

$$6 \times 500$$

Which expression can also be used to find how much money the theater collected for the tickets?

- A.  $30 \times 10^1$   
B.  $30 \times 10^3$   
C.  $(6 \times 5) \times 10^2$   
D.  $(6 \times 5) \times 10^3$

## Session 1—Math (No Calculator)

7. The schedule for a music showcase includes 3 sets that are 20 minutes each and 1 set that is 40 minutes. There is a 10-minute break between each set. The total length of the music showcase is  $3(20 + 10) + 40$  minutes. What is the total length of the music showcase?
- A. 73 minutes  
B. 110 minutes  
C. 130 minutes  
D. 210 minutes
8. Carole used  $3\frac{3}{4}$  cups of butter for baking. The amount of sugar she used was  $\frac{1}{3}$  of the amount of butter she used. How much sugar, in cups, did she use?
- A.  $1\frac{1}{4}$  cups  
B.  $1\frac{1}{3}$  cups  
C.  $2\frac{1}{2}$  cups  
D.  $3\frac{5}{12}$  cups
9. A store sells 107 different colors of paint. They have 25 cans of each color in storage. The number of cans of paint the store has in storage can be found using the expression below.

$$107 \times 25$$

How many cans of paint does the store have in storage?

- A. 749  
B. 2,675  
C. 2,945  
D. 4,250



## Session 1—Math (No Calculator)

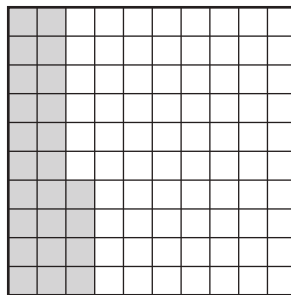
10. Yala brought  $\frac{5}{9}$  of a pound of cherries to school. Will brought  $\frac{4}{15}$  of a pound of cherries to school. Yala used the expression below to find the difference in the number of pounds of cherries she and Will brought to school.

$$\frac{5}{9} - \frac{4}{15}$$

Which expression shows one way to solve the expression Yala used above?

- A.  $\frac{5-4}{9-15}$
- B.  $\frac{5-4}{9 \times 15}$
- C.  $\frac{11}{15} - \frac{4}{15}$
- D.  $\frac{25}{45} - \frac{12}{45}$
11. Use the expression and unit grid below to answer the question.

$$0.24 \div 3$$



What is the value of the expression?

- A. 0.08
- B. 0.8
- C. 1.25
- D. 12.5

## Session 1—Math (No Calculator)

12. Nick is making two different types of bread. He needs  $3\frac{2}{3}$  cups of flour for one type and  $5\frac{3}{4}$  cups of flour for the other type. The total amount of flour, in cups, Nick will need to make both types of bread can be found by solving the expression below.

$$3\frac{2}{3} + 5\frac{3}{4}$$

How many cups of flour will Nick need to make both types of bread?

- A.  $8\frac{1}{2}$  cups
- B.  $8\frac{5}{7}$  cups
- C.  $9\frac{5}{12}$  cups
- D.  $9\frac{7}{12}$  cups
13. At a football game,  $\frac{8}{15}$  of the fans wore team T-shirts. Of those wearing team T-shirts,  $\frac{1}{4}$  also wore team hats. What fraction of the fans at the football game wore both a team T-shirt and a team hat?
- A.  $\frac{2}{15}$
- B.  $\frac{9}{19}$
- C.  $\frac{7}{11}$
- D.  $\frac{47}{60}$

## Session 1—Math (No Calculator)

14. Add.

$$2\frac{3}{8} + \frac{13}{20}$$

A.  $2\frac{16}{28}$

B.  $2\frac{128}{160}$

C.  $3\frac{1}{40}$

D.  $3\frac{41}{40}$

15. Use the equation below to answer the question.

$$0.75 \times 6.5 = m$$

Which expression shows one way to solve the equation?

A.  $75 \times 65 \div 1,000$

B.  $75 \times 650 \div 1,000$

C.  $0.7 \times 6 + 0.7 \times 5 + 0.5 \times 6 + 0.5 \times 5$

D.  $0.7 \times 6 + 0.7 \times 0.5 + 0.5 \times 6 + 0.5 \times 0.5$

## Session 1—Math (No Calculator)

16. Aikong spent  $\frac{3}{8}$  of his time studying science. He spent  $\frac{2}{5}$  as much time studying English as science. What fraction of Aikong's study time was spent studying English?
- A.  $\frac{1}{40}$
- B.  $\frac{3}{20}$
- C.  $\frac{31}{40}$
- D.  $\frac{15}{16}$
17. Daniel made a chocolate pie, a cream pie, and an apple pie that were the same size and shape for a celebration. After the celebration the following amounts of pie were remaining:
- $\frac{5}{8}$  of the chocolate pie
  - $\frac{1}{6}$  of the cream pie
  - $\frac{1}{4}$  of the apple pie

What fraction of a whole pie is remaining?

- A.  $\frac{7}{24}$  of a pie
- B.  $\frac{7}{18}$  of a pie
- C.  $\frac{25}{24}$  pies
- D.  $\frac{19}{10}$  pies

## Session 1—Math (No Calculator)

18. Of the lifeguards working at a swimming pool,  $\frac{1}{5}$  of them are new this summer and  $\frac{3}{8}$  of them are working there for the second summer in a row. What fraction of the lifeguards are either new or working there for the second summer in a row?
- A.  $\frac{4}{40}$
- B.  $\frac{4}{13}$
- C.  $\frac{23}{40}$
- D.  $\frac{6}{8}$
19. Philip had basketball practice on 19 days in January. There are 31 days in January. Which expression is equal to the fraction of the total number of days in January that Philip had basketball practice on?
- A.  $19 \div 31$
- B.  $31 \div 19$
- C.  $\frac{19}{31+19}$
- D.  $\frac{31}{31+19}$

## Session 1—Math (No Calculator)

20. Which diagram shows how to correctly multiply  $1,234 \times 987$ ?

A.

$$\begin{array}{r} 1234 \\ \times 987 \\ \hline 8638 \\ 9872 \\ 10806 \\ \hline 1187958 \end{array}$$

C.

$$\begin{array}{r} 1234 \\ \times 987 \\ \hline 8638 \\ 9672 \\ 11106 \\ \hline 1215958 \end{array}$$

B.

$$\begin{array}{r} 1234 \\ \times 987 \\ \hline 8638 \\ 9872 \\ 11106 \\ \hline 1217958 \end{array}$$

D.

$$\begin{array}{r} 1234 \\ \times 987 \\ \hline 7638 \\ 9872 \\ 11106 \\ \hline 1216958 \end{array}$$

21. The distance between Miriam's house and Debbie's house is 444.44 meters. Which statement about the values of the digits in the distance, in meters, between their houses is true?

A. The value of the 4 in the tenths place is  $\frac{1}{10}$  the value of the 4 in the tens place.

B. The value of the 4 in the hundredths place is  $\frac{1}{10}$  the value of the 4 in the ones place.

C. The value of the 4 in the hundreds place is 10 times greater than the value of the 4 in the ones place.

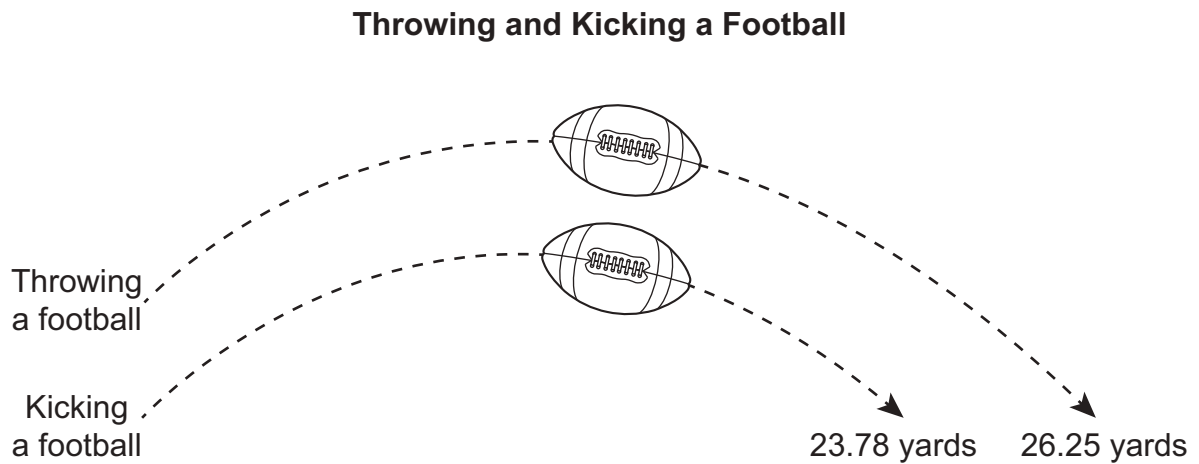
D. The value of the 4 in the tenths place is 10 times greater than the value of the 4 in the hundredths place.

## Session 1—Math (No Calculator)

22. Which situation can be represented by the fraction  $\frac{20}{8}$ ?
- A. Leslie spent 20 dollars and 8 cents at a store.  
How is the amount of money Leslie spent written as a fraction?
  - B. Mr. Kramer's 8 grandchildren shared 20 crackers equally.  
How many crackers did each grandchild get?
  - C. Mitch bought 20 containers of flowers at a plant store.  
Each container had 8 flowers in it.  
How many flowers did Mitch buy?
  - D. Stamps are sold in booklets of 20 stamps.  
Donna used 8 stamps to send invitations for a party.  
How many booklets of stamps did Donna use to send her invitations?
23. Mr. Harrison made sandwiches for a picnic. Of the sandwiches he made,  $\frac{1}{6}$  of them were turkey sandwiches. Mr. Harrison added cheese to  $\frac{1}{2}$  of the turkey sandwiches he made. What fraction of the sandwiches made by Mr. Harrison had both turkey and cheese?
- A.  $\frac{1}{12}$
  - B.  $\frac{1}{8}$
  - C.  $\frac{2}{8}$
  - D.  $\frac{4}{6}$

## Session 1—Math (No Calculator)

24. Asha measured the distances she threw and kicked a football. A diagram of her results is shown below.



How much farther, in yards, did she throw the football than kick it?

- A. 2.47 yards
  - B. 2.57 yards
  - C. 3.53 yards
  - D. 3.57 yards
25. Use the expression below to answer the question.

$$3 \times [(2 \times 6 - 5) + (8 \div 4)] - 1$$

What is the value of the expression?

- A. 9
- B. 11
- C. 26
- D. 32

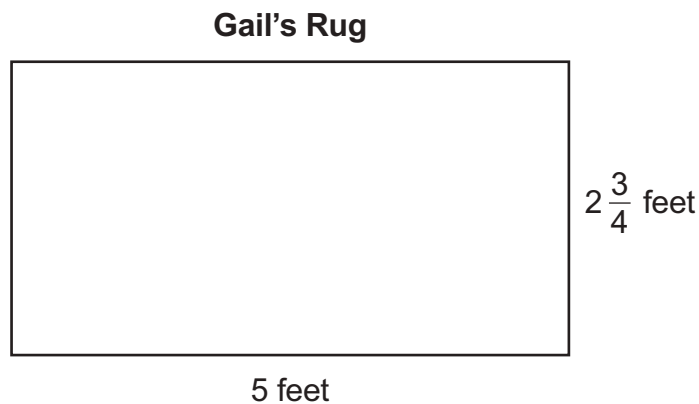


## Session 1—Math (No Calculator)

26. Kayla had  $\frac{3}{4}$  of her book left to read on Sunday night. She read  $\frac{1}{5}$  of the book Monday afternoon and  $\frac{1}{4}$  of the book Monday evening. What fraction of the book did she still have left to read after Monday evening?

- A.  $\frac{1}{5}$  of the book
- B.  $\frac{2}{9}$  of the book
- C.  $\frac{1}{4}$  of the book
- D.  $\frac{3}{10}$  of the book

27. Gail has a rectangular rug. The diagram below shows the dimensions of Gail's rug.

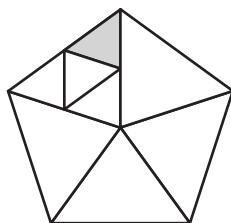


What is the area of Gail's rug?

- A.  $7\frac{3}{4}$  square feet
- B.  $10\frac{3}{4}$  square feet
- C.  $13\frac{3}{4}$  square feet
- D.  $15\frac{1}{2}$  square feet

## Session 1—Math (No Calculator)

28. Soki used the model below to represent a situation.



Which situation could Soki's model represent?

- A. Soki has \$5 in quarters. There are 4 quarters in one dollar. How many quarters does Soki have in all?
- B. Soki has a rope that is 5 yards long. She cuts the rope into 4 equal length pieces. Soki uses all of the rope. How long, in yards, is each piece of rope?
- C. Of Soki's friends, 5 of them each have  $\frac{1}{4}$  of a pound of gummy bears. The 5 friends combine the gummy bears. How many pounds of gummy bears do Soki's 5 friends have in total?
- D. Soki has  $\frac{1}{5}$  of a gallon of paint remaining. She puts all of the remaining paint into 4 jars. Each jar contains the same amount of paint. How much paint, in gallons, does Soki put into each jar?
29. Zeik is cooking  $\frac{1}{3}$  of a bag of rice for a meal. He will give each of his 4 guests the same amount of rice. Zeik is not eating any rice. What is the maximum fraction of the bag of rice Zeik could give each of his 4 guests?
- A.  $\frac{1}{12}$
- B.  $\frac{4}{12}$
- C.  $\frac{3}{4}$
- D.  $\frac{4}{3}$

## Session 1—Math (No Calculator)

30. A sporting goods store shipped baseballs to schools. It shipped a total of 756 baseballs to 21 schools. Each school received the same number of baseballs. The model shown below calculates the number of baseballs shipped to each school.

	10	10	10	3	3
21	210	210	210	63	63
	$\begin{array}{r} 756 \\ - 210 \\ \hline 546 \end{array}$	$\begin{array}{r} 546 \\ - 210 \\ \hline 336 \end{array}$	$\begin{array}{r} 336 \\ - 210 \\ \hline 126 \end{array}$	$\begin{array}{r} 126 \\ - 63 \\ \hline 63 \end{array}$	$\begin{array}{r} 63 \\ - 63 \\ \hline 0 \end{array}$

How many baseballs were shipped to each school?

- A. 33 baseballs
- B. 36 baseballs
- C. 57 baseballs
- D. 63 baseballs



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## Math—Sessions 1, 2, and 3

### GENERAL INSTRUCTIONS

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The Math test has three sessions, two with multiple-choice questions and one with constructed-response questions. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

## Session 2—Math (Calculator)

Write your answers for questions 31 through 50 in the spaces provided on page 35, session 2 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session, but do not work on any other session.

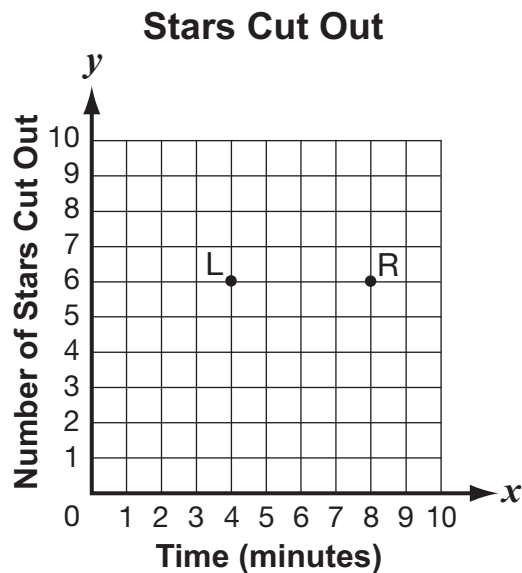


**You MAY use a calculator for this session.**

31. Of the cans of soup in Rolando's cupboard,  $\frac{1}{2}$  are tomato and  $\frac{2}{5}$  are chicken noodle. What fraction of the cans of soup in Rolando's cupboard are either tomato or chicken noodle?
- A.  $\frac{3}{7}$
- B.  $\frac{3}{5}$
- C.  $\frac{7}{10}$
- D.  $\frac{9}{10}$
32. Mr. Lucci put together 5 bags of pens. He put 19 black pens and 12 red pens in each bag. Which expression shows the total number of pens Mr. Lucci put into bags?
- A.  $(5 \times 19) + 12$
- B.  $5 \times (19 + 12)$
- C.  $5 + (19 \times 12)$
- D.  $(5 + 19) \times 12$

## Session 2—Math (Calculator)

33. A baseball team sold 215 youth tickets for \$3 each and 467 adult tickets for \$7 each. Which expression can be used to find how much more money the baseball team made on adult tickets than on youth tickets?
- A.  $(215 \times 3) - (467 \times 7)$   
B.  $(215 \times 7) - (467 \times 3)$   
C.  $(467 \times 3) - (215 \times 7)$   
D.  $(467 \times 7) - (215 \times 3)$
34. Lovelle and Rachel are cutting out stars to decorate a poster. In the graph below, Lovelle's progress is represented by the point L, and Rachel's progress is represented by the point R.



Which statement about Lovelle and Rachel's progress is true?

- A. Rachel cut out 8 stars in 6 minutes.  
B. Lovelle cut out 6 stars in 4 minutes.  
C. Rachel cut out 4 more stars than Lovelle.  
D. Lovelle and Rachel cut the same number of stars in 6 minutes.

## Session 2—Math (Calculator)

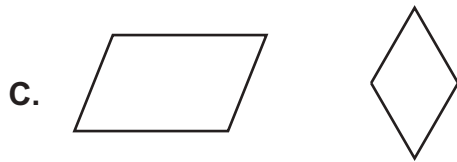
35. Deepak and his friends kept track of how much their height increased, in inches, over the past year. The line plot below shows this information.



- A year ago Deepak was  $52\frac{1}{4}$  inches tall. Which height could he be now?
- A.  $52\frac{1}{2}$  inches
- B. 53 inches
- C.  $53\frac{1}{2}$  inches
- D. 54 inches
36. A gas station sold 300.5849 gallons of gas in a day. How many gallons of gas did the gas station sell, rounded to the nearest hundredth?
- A. 300
- B. 300.58
- C. 300.585
- D. 300.59

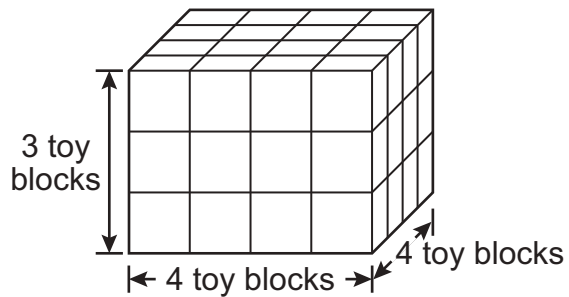
## Session 2—Math (Calculator)

37. Which two quadrilaterals have **both** 2 pairs of parallel sides and 2 acute angles?



38. Veronica stacked toy blocks to form the shape shown below.

**Veronica's Stack of Toy Blocks**



How many toy blocks are in Veronica's stack of toy blocks?

- A. 11
- B. 30
- C. 40
- D. 48



## Session 2—Math (Calculator)

39. A small bat weighs about  $\frac{2}{5}$  of an ounce. A small hummingbird weighs about  $\frac{14}{25}$  of an ounce. Which set of statements explains how to find the difference in the weights of these animals?

A. Multiply the numerator and denominator of  $\frac{2}{5}$  by 5.

Subtract 10 from 14 to get the numerator.

Use 25 as the denominator.

B. Multiply the numerator and denominator of  $\frac{2}{5}$  by 5.

Subtract 10 from 14 to get the numerator.

Subtract 25 from 25 to get the denominator.

C. Multiply the denominator of  $\frac{2}{5}$  by 5.

Subtract 2 from 14 to get the numerator.

Use 25 as the denominator.

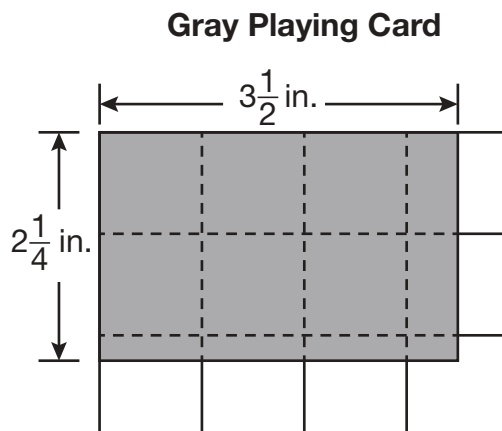
D. Multiply the numerator of  $\frac{2}{5}$  by 5.

Subtract 10 from 14 to get the numerator.

Subtract 5 from 25 to get the denominator.

## Session 2—Math (Calculator)

40. Quincy laid a gray playing card on a grid as shown in the diagram below.



He used the grid to help him find the area of the gray playing card. What is the area, in square inches, of the gray playing card Quincy laid on the grid?

- A.  $5\frac{3}{4}$  square inches
- B.  $6\frac{3}{4}$  square inches
- C.  $7\frac{7}{8}$  square inches
- D.  $11\frac{1}{2}$  square inches
41. The cargo weight in Morten's truck cannot be greater than 3 tons. He has 5,000 pounds of cargo in his truck. What is the greatest amount of cargo weight Morten can add without going over the weight limit?
- A. 2 tons
- B. 5.5 tons
- C. 1,000 pounds
- D. 2,000 pounds

## Session 2—Math (Calculator)

42. Which statement is true?
- A. All hexagons are triangles because they have at least 3 sides.
  - B. All octagons are polygons because they have at least 3 sides.
  - C. All parallelograms are rectangles because they have 2 sets of parallel sides.
  - D. All rhombi are squares because they have 4 sides that are all the same length.
43. Janelle is sending a package to her friend. She needs to calculate how much the contents of the package weigh. Janelle uses the table below to find the total weight of the contents of the package.

**Contents of Janelle's Package**

Object	Weight
Pad of paper and a pencil	8 oz.
Coloring book	5 oz.
Dictionary	2 lb.
Toy	11 oz.

What is the total weight of the contents of the package?

- A. 3 lb. 8 oz.
  - B. 5 lb. 6 oz.
  - C. 26 oz.
  - D. 56 lb.
44. Last month Ellen was in school for 116 hours. Each school day is 6 hours long. How many school days was Ellen in school last month?
- A.  $\frac{6}{122}$
  - B.  $\frac{6}{116}$
  - C.  $\frac{116}{6}$
  - D.  $\frac{122}{6}$

## Session 2—Math (Calculator)

45. Andrea has  $\frac{1}{4}$  of a sack of rice. She divides the rice equally into 7 bags. What fraction of the full sack of rice is in each bag?

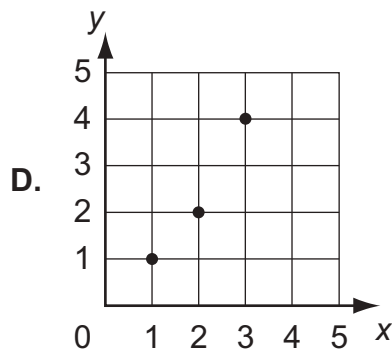
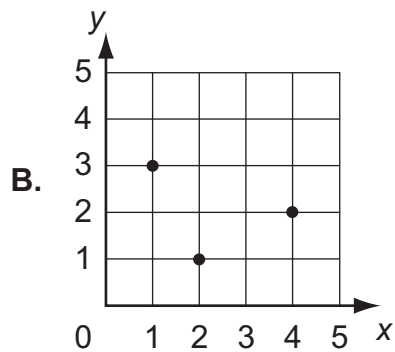
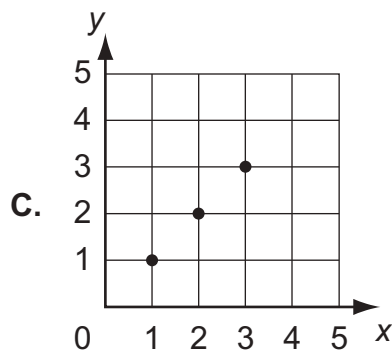
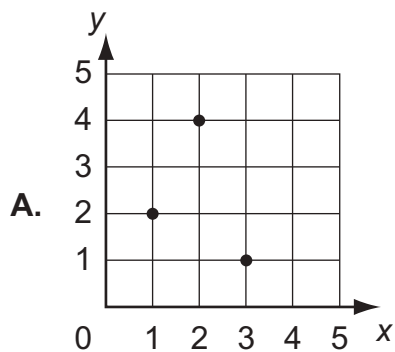
A.  $\frac{1}{28}$

B.  $\frac{1}{7}$

C.  $\frac{2}{11}$

D.  $\frac{11}{28}$

46. Which coordinate grid shows the points (1, 2), (2, 4), and (3, 1) graphed correctly?



## Session 2—Math (Calculator)

47. On Sunday, Doug started recording how many minutes he had read for the week. He also started recording how many minutes he had practiced the trumpet for the week. The table below shows the totals for the first four days.

**Time Spent Practicing the Trumpet and Reading This Week**

Day	Total Minutes Spent Reading	Total Minutes Spent Practicing Trumpet
Sunday	12	15
Monday	24	30
Tuesday	36	45
Wednesday	48	60

Both patterns continue. Which statement about the patterns created by the numbers of minutes Doug has spent reading and practicing his trumpet this week is true?

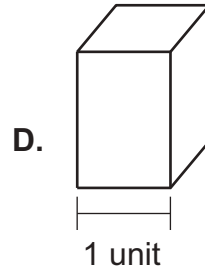
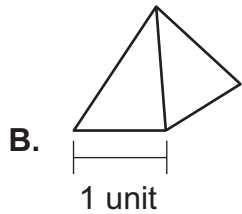
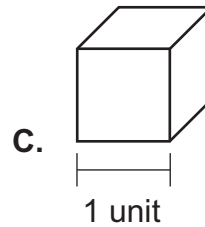
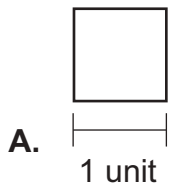
- A. The number 90 will appear in both patterns.
- B. Both patterns switch back and forth between even and odd numbers.
- C. The sum of the corresponding terms in the patterns is always divisible by 3.
- D. The difference between corresponding terms in the patterns is always a multiple of 6.
48. A bag of dried fruit weighs three hundred twenty-six thousandths of a pound. What is the weight of the bag of dried fruit, in pounds, written in expanded form?
- A.  $3 \times \frac{1}{10} + 2 \times \frac{1}{100} + 6 \times \frac{1}{1,000}$
- B.  $3 \times \frac{1}{1,000} + 2 \times \frac{1}{100} + 6 \times \frac{1}{10}$
- C.  $3 \times 100 + 2 \times 10 + 6 \times 1$
- D.  $3 \times 100,000 + 2 \times 10,000 + 6 \times 1,000$

## Session 2—Math (Calculator)

49. A scientist measured the diameters of four human hairs. The diameters, in millimeters, were 0.091, 0.169, 0.17, and 0.023. Which inequality correctly compares the diameters of two of the human hairs?

- A.  $0.17 > 0.023$
- B.  $0.091 < 0.023$
- C.  $0.169 > 0.17$
- D.  $0.17 < 0.091$

50. Which figure most likely has a volume of 1 cubic unit?



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## Math—Sessions 1, 2, and 3

### GENERAL INSTRUCTIONS

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The Math test has three sessions, two with multiple-choice questions and one with constructed-response questions. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

## Session 3—Math (Calculator)

Write your answers for questions 51 and 52 in the spaces provided below. The questions have more than one part. Show all the work you do to find your answers. Even if you cannot answer all parts, answer as many as you can. You may still get points for answering part of a question. Be sure to write clearly. You may review your work in this session, but do not work on any other session.



**You MAY use a calculator for this session.**

51. Craig has a yellow jug, a red jug, and a blue jug. The blue jug holds  $\frac{2}{3}$  of a gallon.
- A. Maritza has a blue jug that holds  $\frac{6}{9}$  of a gallon. Craig says that his blue jug holds the same amount as Maritza's blue jug. He uses the equation below to support his statement.

$$\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$$

Explain why Craig's equation supports his statement.



## Session 3—Math (Calculator)

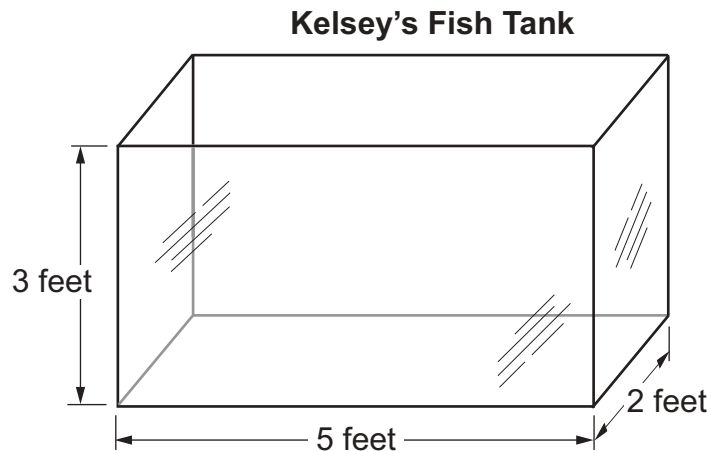
**B.** To find how much the yellow jug holds, Craig multiplies the amount his blue jug holds by a number greater than 1 but less than 2. To find how much the red jug holds, Craig multiplies the amount his blue jug holds by a number greater than 0 but less than 1. Write the colors of the jugs in order from **least** to **greatest** on the lines below based on how many gallons they each hold.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Explain or show how you determined the sizes of the red and yellow jug in comparison to the blue jug.

## Session 3—Math (Calculator)

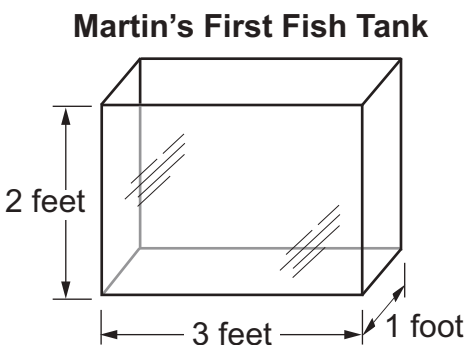
52. Kelsey has a fish tank in the shape of a rectangular prism. A diagram of her fish tank is shown below.



- A. What is the volume, in cubic feet, of Kelsey's fish tank?

\_\_\_\_\_ cubic feet

- B. Martin has two fish tanks, each in the shape of a rectangular prism. The total volume of his two fish tanks is equal to the volume of Kelsey's fish tank. The first of Martin's fish tanks has a length of 3 feet, a width of 1 foot, and a height of 2 feet, as shown in the diagram below.



List two unique sets of dimensions that could represent the dimensions of Martin's second fish tank.

## Session 3—Math (Calculator)

- C. Pia also has a fish tank. The volume of her tank is greater than that of Martin's second fish tank but less than that of Kelsey's fish tank. The area of the bottom of Pia's fish tank is 7 square feet. What is one possible height, in feet, of Pia's fish tank?

\_\_\_\_\_ feet



---

# Multiple-Choice Answer Sheet

---

Name: \_\_\_\_\_



## Session 1

- |           |           |
|-----------|-----------|
| 1. _____  | 16. _____ |
| 2. _____  | 17. _____ |
| 3. _____  | 18. _____ |
| 4. _____  | 19. _____ |
| 5. _____  | 20. _____ |
| 6. _____  | 21. _____ |
| 7. _____  | 22. _____ |
| 8. _____  | 23. _____ |
| 9. _____  | 24. _____ |
| 10. _____ | 25. _____ |
| 11. _____ | 26. _____ |
| 12. _____ | 27. _____ |
| 13. _____ | 28. _____ |
| 14. _____ | 29. _____ |
| 15. _____ | 30. _____ |

---

# Multiple-Choice Answer Sheet

---

Name: \_\_\_\_\_



## Session 2

31. \_\_\_\_\_

41. \_\_\_\_\_

32. \_\_\_\_\_

42. \_\_\_\_\_

33. \_\_\_\_\_

43. \_\_\_\_\_

34. \_\_\_\_\_

44. \_\_\_\_\_

35. \_\_\_\_\_

45. \_\_\_\_\_

36. \_\_\_\_\_

46. \_\_\_\_\_

37. \_\_\_\_\_

47. \_\_\_\_\_

38. \_\_\_\_\_

48. \_\_\_\_\_

39. \_\_\_\_\_

49. \_\_\_\_\_

40. \_\_\_\_\_

50. \_\_\_\_\_

Use the information below to answer questions on the Math test.

**U.S. Unit Conversions**

$$1 \text{ foot} = 12 \text{ inches}$$

$$1 \text{ yard} = 3 \text{ feet}$$

$$1 \text{ mile} = 5,280 \text{ feet}$$

$$1 \text{ pound} = 16 \text{ ounces}$$

$$1 \text{ ton} = 2,000 \text{ pounds}$$

$$1 \text{ minute} = 60 \text{ seconds}$$

$$1 \text{ hour} = 60 \text{ minutes}$$

$$1 \text{ day} = 24 \text{ hours}$$

**Metric Unit Conversions**

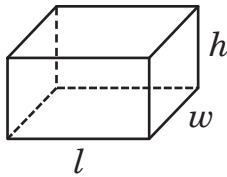
$$1 \text{ meter} = 1,000 \text{ millimeters}$$

$$1 \text{ meter} = 100 \text{ centimeters}$$

$$1 \text{ kilometer} = 1,000 \text{ meters}$$

$$1 \text{ liter} = 1,000 \text{ milliliters}$$

$$1 \text{ kilogram} = 1,000 \text{ grams}$$

**Rectangular Prism**


$$\text{Volume} = l \times w \times h$$

$$\text{Volume} = B \times h$$

$$B = l \times w$$

---

# Multiple-Choice Answer Key

---

Name: \_\_\_\_\_



## Session 1

- |     |          |     |          |
|-----|----------|-----|----------|
| 1.  | <u>D</u> | 16. | <u>B</u> |
| 2.  | <u>D</u> | 17. | <u>C</u> |
| 3.  | <u>C</u> | 18. | <u>C</u> |
| 4.  | <u>A</u> | 19. | <u>A</u> |
| 5.  | <u>D</u> | 20. | <u>B</u> |
| 6.  | <u>C</u> | 21. | <u>D</u> |
| 7.  | <u>C</u> | 22. | <u>B</u> |
| 8.  | <u>A</u> | 23. | <u>A</u> |
| 9.  | <u>B</u> | 24. | <u>A</u> |
| 10. | <u>D</u> | 25. | <u>C</u> |
| 11. | <u>A</u> | 26. | <u>D</u> |
| 12. | <u>C</u> | 27. | <u>C</u> |
| 13. | <u>A</u> | 28. | <u>D</u> |
| 14. | <u>C</u> | 29. | <u>A</u> |
| 15. | <u>A</u> | 30. | <u>B</u> |

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## Multiple-Choice Answer Key

---

Name: \_\_\_\_\_



### Session 2

- |     |          |     |          |
|-----|----------|-----|----------|
| 31. | <u>D</u> | 41. | <u>C</u> |
| 32. | <u>B</u> | 42. | <u>B</u> |
| 33. | <u>D</u> | 43. | <u>A</u> |
| 34. | <u>B</u> | 44. | <u>C</u> |
| 35. | <u>D</u> | 45. | <u>A</u> |
| 36. | <u>B</u> | 46. | <u>A</u> |
| 37. | <u>C</u> | 47. | <u>C</u> |
| 38. | <u>D</u> | 48. | <u>A</u> |
| 39. | <u>A</u> | 49. | <u>A</u> |
| 40. | <u>C</u> | 50. | <u>C</u> |



# Constructed-Response Scoring Rubrics



## Session 3

51.

Scoring Rubric	
4	The student earns 4 points.
3	The student earns 3 points.
2	The student earns 2 points.
1	The student earns 1 point OR demonstrates minimal understanding of the standard being measured.
0	The student's response is incorrect, irrelevant to the skill or standard being measured, or blank.
<b>Sample Answer:</b>	
Part A. The fraction $\frac{3}{3} = 1$ . When you multiply something by 1 the value does not change, so $\frac{2}{3} = \frac{6}{9}$ .	
Part B. <b>red, blue, yellow</b> ; I know the yellow one holds more than the blue one because to find out how much the yellow jug holds, Craig multiplied $\frac{2}{3}$ by a number bigger than 1, so the answer will be bigger than $\frac{2}{3}$ . I know the red one holds less than the blue one because Craig multiplied $\frac{2}{3}$ by a number greater than 0 but less than 1, so the red one must hold less than $\frac{2}{3}$ .	
<b>Points Assigned:</b>	
Part A. 1 point 1 point for giving complete and accurate work or explanation of why Craig is correct	
Part B. 3 points 1 point for the correct order (red, blue, yellow) <b>AND</b> 1 point for giving complete and accurate work or explanation for yellow <b>AND</b> 1 point for giving complete and accurate work or explanation for red	

52.

<b>Scoring Rubric</b>	
<b>4</b>	The student earns 4 points.
<b>3</b>	The student earns 3 points.
<b>2</b>	The student earns 2 points.
<b>1</b>	The student earns 1 point OR demonstrates minimal understanding of the standard being measured.
<b>0</b>	The student's response is incorrect, irrelevant to the skill or standard being measured, or blank.
<b>Sample Answer:</b>	
<p>Part A. 30</p> <p>Part B. Any two of the following sets of dimensions regardless of the order of the numbers in the set: (1, 3, 8), (1, 2, 12), (1, 1, 24), (1, 4, 6), (2, 6, 2), (3, 4, 2), (fractional lengths that multiply to 24)</p> <p>Part C. 4 feet (any length, in feet, between <math>\frac{24}{7}</math> and <math>\frac{30}{7}</math> is correct)</p>	
<b>Points Assigned:</b>	
<p>Part A. 1 point 1 point for correct answer</p> <p>Part B. 2 points 1 point for a correct answer [The student writes a set of dimensions for a rectangular prism that has a product equal to 24.] <b>AND</b> 1 point for a correct answer [The student writes a set of dimensions for a rectangular prism that has a product equal to 24 that does NOT use the same 3 numbers as the first answer given.]</p> <p>Part C. 1 point 1 point for a correct answer</p>	

**Note:** Scorers should follow along with the student's work throughout. If the student makes an error in a previous part and subsequent answers are correct based on the earlier error, the student should not be penalized again.