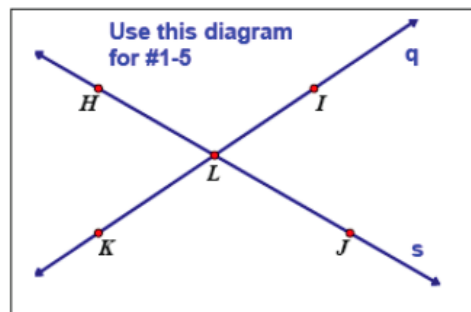


Points, Lines & Planes

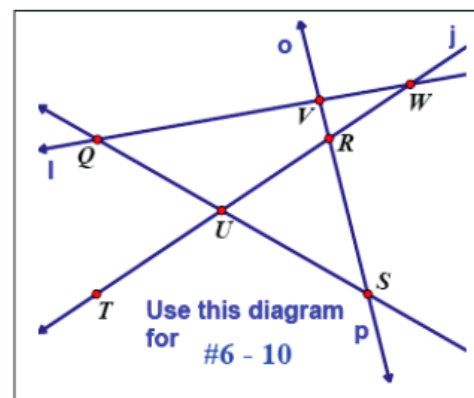
Points & Lines: CLASSWORK

1. Name three collinear points on line q and on line s
2. Name 4 sets of non-collinear points
3. Name the opposite rays on line q and on line s
4. How many points are marked on line q?
5. How many points are there on line q?



Points & Lines: HOMEWORK

6. Name three collinear points on line o
7. Name 4 sets of collinear points
8. Name two opposite rays on line j with endpoint R
9. Which 4 points are collinear? What line are they on?
10. How many points are there on line j?



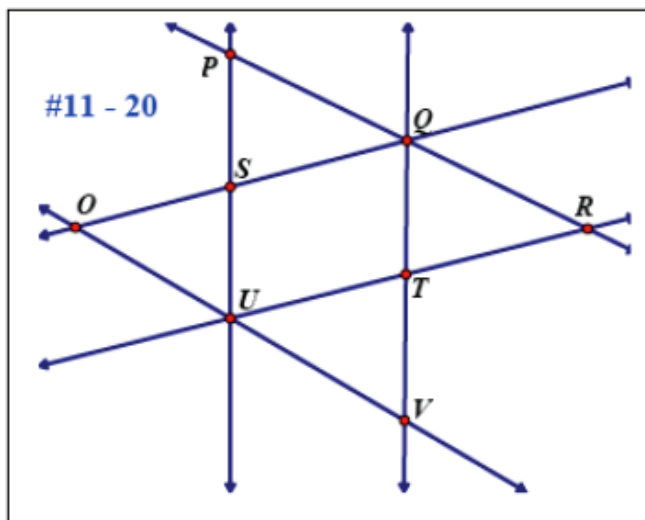
Points & Lines: CLASSWORK

Name a point that is collinear with the given points

11. O and S
12. P and R
13. U and T
14. U and S
15. Name 3 points non-collinear with T and V

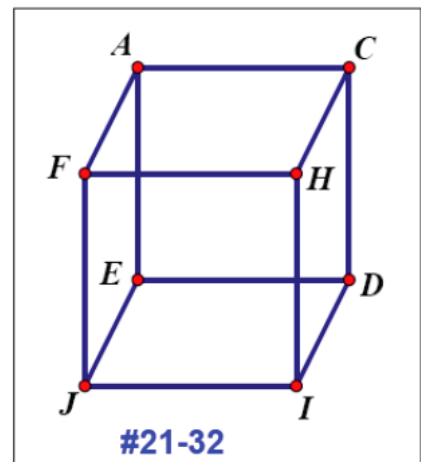
Points & Lines: HOMEWORK

16. Q and S
17. T and R
18. U and V
19. P and S
20. Name 3 points non-collinear with T and U



Planes: CLASSWORK

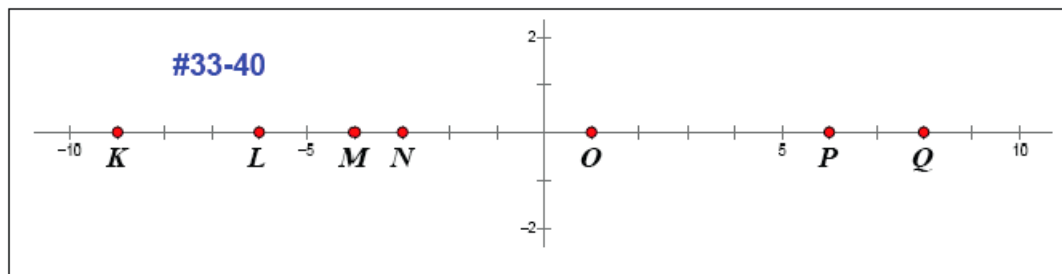
21. Name a point that is coplanar with A, E, and J
22. Name a point that is coplanar with A, C, and I
23. Name all the points that are noncoplanar with A, C, and D
24. Name all the points that are noncoplanar with F, H, and E
25. Where do plane ACH and plane IDC intersect?
26. Where do planes ACH, AFJ, and ACD intersect?



Planes: HOMEWORK

27. Name a point that is coplanar with E, D, and I
28. Name a point that is coplanar with A, E, and J
29. Name all the points that are noncoplanar with A, F, and H
30. Name all the points that are noncoplanar with A, F, and D
31. Where do plane JED and plane FHI intersect?
32. Where do planes AED, CHI, and JED intersect?

Congruence, Distance & Length: CLASSWORK



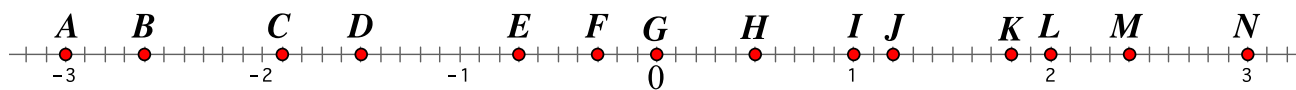
33. Find the distance between point K and point M
34. Find the distance between point P and point L
35. Find the distance between point O and Point N
36. Find the distance between point L and point N

Congruence, Distance & Length: HOMEWORK

37. Find the distance between point N and point K
38. Find the distance between point Q and point L
39. Find the distance between point L and point P
40. Find the distance between point K and point Q

Congruence, Distance & Length: CLASSWORK

Figure for #41-52

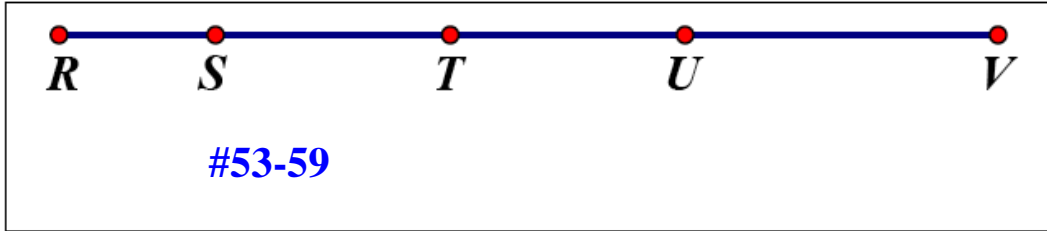


41. Find the distance between point G and point L
42. Find the distance between point K and point M
43. Find the distance between point A and Point D
44. Find the distance between point B and point F
45. Find the distance between point C and point H
46. Find the distance between point E and point N

Congruence, Distance & Length: HOMEWORK

47. Find the distance between point L and point A
48. Find the distance between point D and point L
49. Find the distance between point N and point K
50. Find the distance between point K and point H
51. Find the distance between point C and point I
52. Find the distance between point B and point M

Congruence, Distance & Length: CLASSWORK



53. Given: $RV = 24$
 $SU = 8$
 $RS = ST = TU$
 $RS = ?$

55. Given: $RV = 37$
 $RS = TU$
 $UV = 9$
 $ST + UV = 15$
 $ST = ?$
 $RS = ?$
 $SU = ?$

54. Given: $RV = 24$
 $SU = 8$
 $RS = ST = TU$
 $UV = ?$

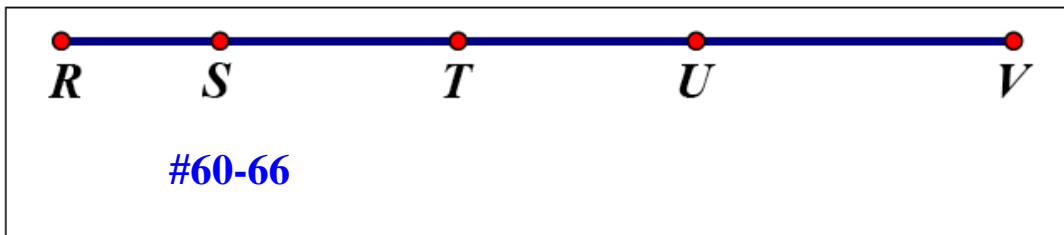
56. Given: $RV = 25$
 $RT = 6$
 $RS = ST = TU$
 $UV = 3x + 1$
 $x = ?$

57. Points F, X, and D are collinear, with F between X and D. Draw a diagram and solve for X, if $FX = 2x+13$, $FD = 7x-6$, and $XD = 2x+70$.

58. P, A, and Z are collinear. Z is between P and A. Draw a diagram and solve for x, given:
 $ZP = 6x-13$, $ZA = 9x+27$, and $AP = 3x +74$.

59. A, B, and C are collinear with A between B and C. Draw a diagram and solve for x, given:
 $AC = 17x - 69$, $AB = 6x+23$, and $BC = 25x-50$.

Congruence, Distance & Length: HOMEWORK



60. $RV = 36$

$$\begin{aligned}TV &= 12 \\ST &= TU = UV \\UV &= ?\end{aligned}$$

62. $RV = 29$

$$\begin{aligned}ST &= UV & ST &= ? \\RS &= 7 & RS &= ? \\RS + ST &= 16 & RT &= ?\end{aligned}$$

61. $RV = 36$

$$\begin{aligned}TV &= 12 \\ST &= TU = UV \\RS &= ?\end{aligned}$$

63. $RV = 27$

$$\begin{aligned}SU &= 6 \\ST &= TU = UV \\RS &= ?, RU = ?\end{aligned}$$

64. D, V, and U are collinear with U between D and V. Draw a diagram and solve for x, given: $DU = 4x+5$, $VU = 3x-8$, and $VD = 10x-30$.

65. P, R, and F are collinear with F between R and P. Draw a diagram and solve for x, given: $FR = 7x-8$, $FP = 4x+20$, and $PR = 13x - 6$.

66. W, S, and X are collinear with W between X and S. Draw a diagram and solve for x, given: $XW = 3x+5$, $SW = 7x-18$, and $XS = 6x+19$.

Constructions & Loci: CLASSWORK

67. Draw a circle for each given radius length in the figures below.

a) b)



68. Construct congruent segments for each segment given below. Hint: remember to draw a longer line in any direction to start constructing your congruent segment.

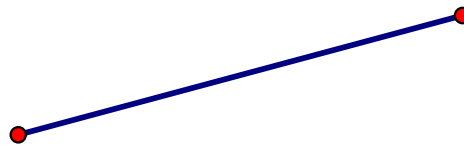
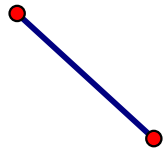
a) b)



Constructions & Loci: HOMEWORK

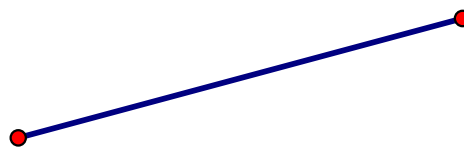
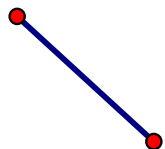
69. Draw a circle for each given radius length in the figures below.

a) b)



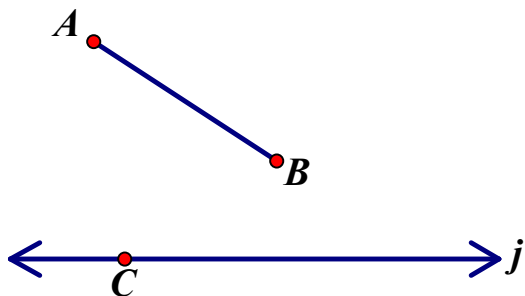
70. Construct congruent segments for each segment given below. Hint: remember to draw a longer line in any direction to start constructing your congruent segment.

a) b)

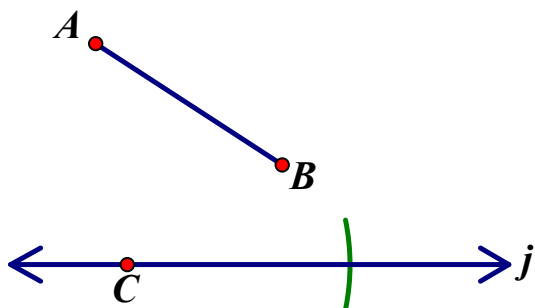


PARCC type question:

71. The figure shows line j , point C on line j , and \overline{AB} .



Part A:



Consider the partial construction of a line segment congruent to \overline{AB} on line j . What would be the final step in the construction?

- Draw a point D between points C and A
- Draw a point D between points C and B
- Draw a point D on line j between point C and the given arc
- Draw a point D on line j at the given arc.

Part B:

Once the construction is complete, which of the following reasons listed contribute to providing the validity of the construction?

- Because the distance between A and D match the distance between B and C , $AD = BC$, making them congruent.
- Because the distance between A and C match the distance between B and D , $AC = BD$, making them congruent.
- Because the distance between A and B match the distance between C and D , $AB = CD$, making them congruent.
- Because the distance between A and j match the distance between B and D , $Aj = BD$, making them congruent.

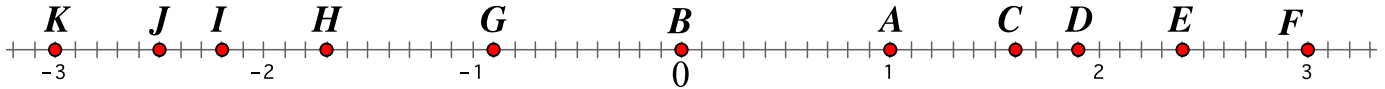
Points, Lines and Planes Review Multiple Choice

72. Intersecting lines are _____ non-coplanar
- a. always
 - b. sometimes
 - c. never
73. Two non-parallel lines _____ intersect at one point.
- a.always
 - b.sometimes
 - c.never
74. Two points are _____ collinear.
- a.always
 - b.sometimes
 - c.never
75. Three points are _____ collinear.
- a.always
 - b.sometimes
 - c.never
76. Three points are _____ coplanar.
- a.always
 - b.sometimes
 - c.never
77. Four points are _____ coplanar.
- a.always
 - b.sometimes
 - c.never
78. When two planes intersect, they do so:
- a.at a point
 - b.along a line
 - c.along a plane
79. All points along a line are _____ collinear.
- a.always
 - b.sometimes
 - c.never
80. Opposite rays (circle all that apply):
- a.are collinear
 - b.have the same endpoint
 - c.sometimes overlap
 - d.form a straight angle

81. Any two rays are _____ congruent.
- a. always
 - b. sometimes
 - c. never

82. Any two segments are _____ congruent.
- a. always
 - b. sometimes
 - c. never

For #70-74, use the diagram below.



83. Find the distance between point A and B.
- a. 1
 - b. 2
 - c. 5
 - d. 10
84. Find the distance between point E and F.
- a. 0.3
 - b. 0.6
 - c. 3
 - d. 6
85. Find the distance between point C and H.
- a. 1.6
 - b. 1.8
 - c. 3
 - d. 3.4
86. Find the distance between point K and G.
- a. 0.9
 - b. 3
 - c. 2.1
 - d. 21
87. Find the distance between point I and D.
- a. 4
 - b. 4.1
 - c. 20.5
 - d. 41

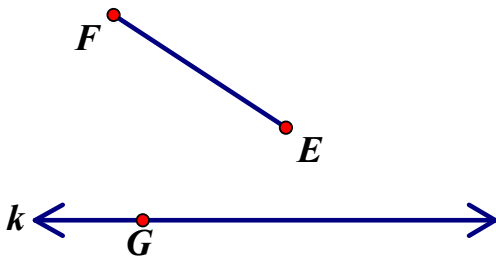
88. If points A, B, C are collinear with C between A and B, the segment addition postulate is:

- a. $AB + BC = AC$
- b. $BA + CB = AC$
- c. $BC + CA = AB$
- d. $BC + AC = CA$

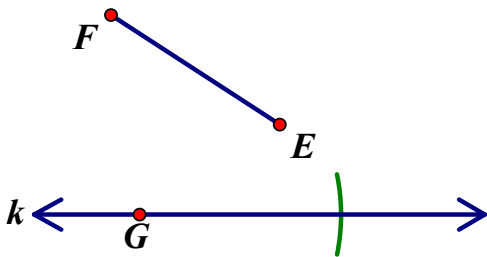
89. Two rays that have a common endpoint could form (check all that apply):

- a. an angle
- b. a straight line
- c. opposite rays
- d. a vertex

90. The figure shows line k , point G on line k , and \overline{EF} .



Part A:



Consider the partial construction of a line segment congruent to \overline{EF} on line k . What would be the final step in the construction?

- a) Draw a point H on line k at the given arc.
- b) Draw a point H on line k between point G and the given arc
- c) Draw a point H between points F and G
- d) Draw a point H between points E and G

Part B:

Once the construction is complete, which of the following reasons listed contribute to providing the validity of the construction?

- a) Because the distance between F and G match the distance between E and H , $FG = EH$, making them congruent.
- b) Because the distance between E and F match the distance between G and H , $EF = GH$, making them congruent.
- c) Because the distance between E and G match the distance between F and H , $EG = FH$, making them congruent.
- d) Because the distance between G and k match the distance between G and H , $Gk = GH$, making them congruent.

Points, Lines and Planes Review Constructed Response

91. Points J, K and L are collinear with J between L and K. $KJ = 2x + 3$, $LK = 9x - 7$ and $LJ = 4x + 8$. Draw a diagram, solve for x , and find the measures for KJ, LJ & LK.

92. Points B, D, F, H and J are collinear and are in the following order

- D is between J and B
- F is between D and J
- B is between F and H
- $JH = 47$, $FB = 12$, $FD = DB = BH$ and $JF = 3x - 7$

Draw a diagram of the points, solve for x and solve for JF.

Answer Key

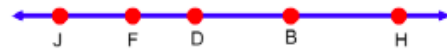
- | | | |
|-----------------------|----------|---------------------------|
| 1. KLI & HLJ | 25. CH | 49. 1.2 |
| 2. HLK, HLI, KLJ, ILJ | 26. A | 50. 1.3 |
| 3. LK, LI, LJ, LH | 27. J | 51. 2.9 |
| 4. 3 | 28. F | 52. 5.0 |
| 5. Infinite | 29. EDJI | 53. 4 |
| 6. VRS | 30. CHEJ | 54. 12 |
| 7. QVW, TUR, QUS, VRS | 31. JI | 55. ST=6 RS=11 SU=17 |
| 8. RW, RU | 32. D | 56. 5 |
| 9. TURW, j | 33. 5 | 57. 9 |
| 10. Infinite | 34. 12 | 58. 5 |
| 11. Q | 35. 4 | 59. 2 |
| 12. Q | 36. 3 | 60. 6 |
| 13. R | 37. 6 | 61. 18 |
| 14. P | 38. 14 | 62. ST = 9 RS = 7 RT = 16 |
| 15. PSOU or R | 39. 12 | 63. RS = 18 RU = 24 |
| 16. O | 40. 17 | 64. 9 |
| 17. U | 41. 2.0 | 65. 9 |
| 18. O | 42. 0.6 | 66. 8 |
| 19. U | 43. 1.5 | 67. Check Constructions |
| 20. POSQ or V | 44. 2.3 | 68. Check Constructions |
| 21. F | 45. 2.4 | 69. Check Constructions |
| 22. J | 46. 3.7 | 70. Check Constructions |
| 23. FHJI | 47. 5.0 | 71. Part A: choice d |
| 24. ACJI | 48. 3.5 | Part B: choice c |

Review Answer Key Multiple Choice

72. C
73. A
74. A
75. B
76. A
77. B
78. B
79. A
80. A, B, D
81. A
82. B
83. A
84. B
85. D
86. C
87. B
88. C
89. A, B, C, D
90. Part A: A
Part B: B

Review Answer Key Constructed Response

91. $x = 6$, KJ = 15, LJ = 32, LK = 47



92. $x = 12$ JF = 29