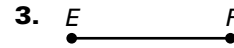
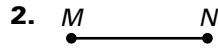
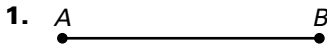


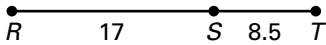
LESSON 1.2 Practice B
For use with pages 9–14

Use a ruler to measure the length of the segment to the nearest tenth of a centimeter. Then draw a segment with the same length.

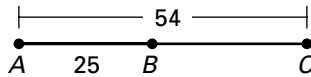


Use the Segment Addition Postulate to find the indicated length.

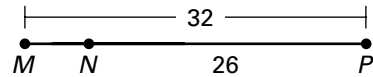
4. Find RT .



5. Find BC .



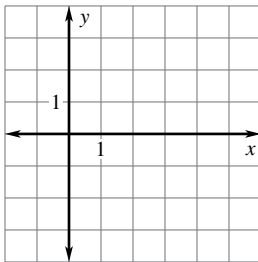
6. Find MN .



Plot the given points in a coordinate plane. Then determine whether the line segments named are congruent.

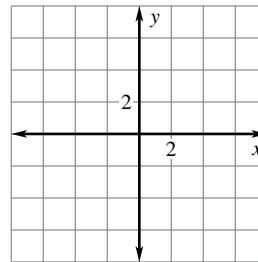
7. $A(2, 2), B(4, 2), C(-1, -1), D(-1, 1)$;

\overline{AB} and \overline{CD}



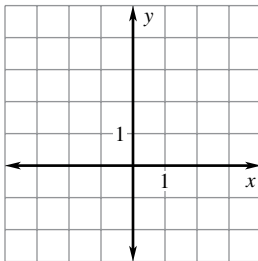
8. $M(1, -3), N(4, -3), O(3, 4), P(4, 4)$;

\overline{MN} and \overline{OP}



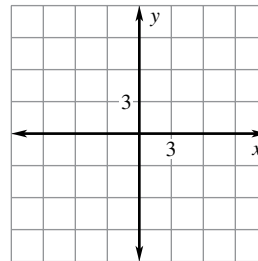
9. $E(-3, 4), F(-1, 4), G(2, 4), H(-1, 1)$;

\overline{EG} and \overline{FH}

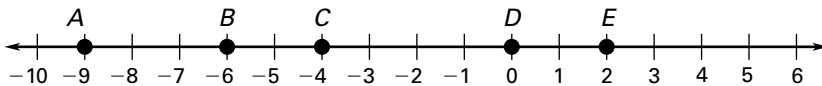


10. $R(3, 5), S(10, 5), T(-4, -3), U(-11, -3)$;

\overline{RS} and \overline{TU}



Use the number line to find the indicated distance.



11. AB

12. AD

13. CD

14. BD

15. CE

16. AE

17. BE

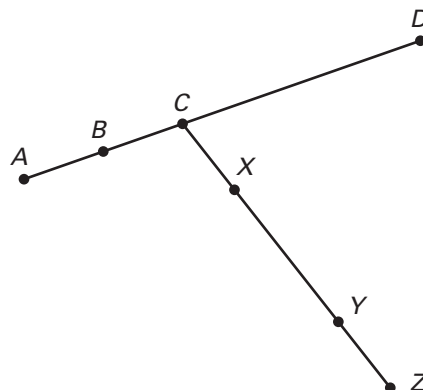
18. DE

LESSON 1.2

Practice B *continued*
For use with pages 9–14

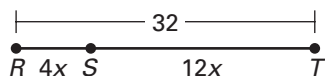
In the diagram, points $A, B, C,$ and D are collinear, points $C, X, Y,$ and Z are collinear, $AB = BC = CX = YZ, AD = 54, XY = 22,$ and $XZ = 33.$ Find the indicated length.

- 19. AB
- 20. BD
- 21. CY
- 22. CD
- 23. XC
- 24. CZ

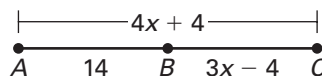


Find the indicated length.

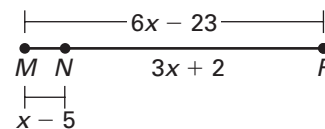
25. Find ST .



26. Find AC .



27. Find NP .



Point J is between H and K on \overline{HK} . Use the given information to write an equation in terms of x . Solve the equation. Then find HJ and JK .

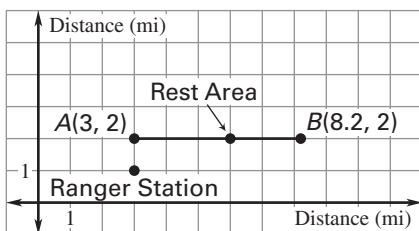
28. $HJ = 2x$
 $JK = 3x$
 $KH = 25$

29. $HJ = \frac{x}{4}$
 $JK = 3x - 4$
 $KH = 22$

30. $HJ = 5x - 4$
 $JK = 8x - 10$
 $KH = 38$

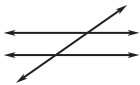
31. $HJ = 5x - 3$
 $JK = x - 9$
 $KH = 5x$

32. **Hiking** On the map, \overline{AB} represents a trail that you are hiking. You start from the beginning of the trail and hike for 90 minutes at a rate of 1.4 miles per hour. How much farther do you need to hike to reach the end of the trail?

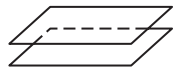


Lesson 1.1, continued

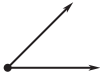
17. Sample answer:



18. Sample answer:



19. Sample answer:



20. Sample answer:

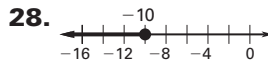


21. yes 22. yes 23. yes 24. no

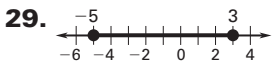
25. no 26. yes



ray



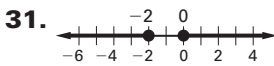
ray



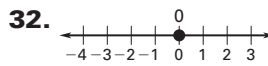
segment



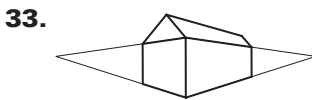
segment



rays



point

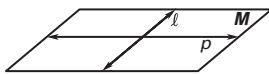


Review for Mastery

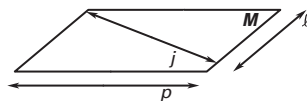
1. Sample answer: \overleftrightarrow{DC} and line n 2. \overleftrightarrow{EC} 3. \overleftrightarrow{FE}

4. B 5. F 6. \overleftrightarrow{DC}

7. Sample answer:



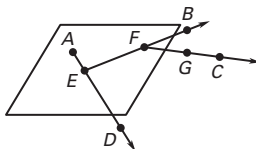
8. Sample answer:



Challenge Practice

1. Rays: \overrightarrow{DG} , \overrightarrow{GD} , \overrightarrow{FG} , \overrightarrow{GF} , \overrightarrow{FD} , \overrightarrow{DF} , \overrightarrow{DB} , \overrightarrow{BD} , \overrightarrow{DC} , \overrightarrow{CD} , \overrightarrow{CB} , \overrightarrow{BC} , \overrightarrow{CA} , \overrightarrow{AC} , \overrightarrow{AF} , \overrightarrow{FA} , \overrightarrow{EA} , \overrightarrow{AE} , \overrightarrow{ED} , \overrightarrow{DE} , \overrightarrow{DA} , \overrightarrow{AD} ; Opposite rays: \overrightarrow{FG} and \overrightarrow{FD} , \overrightarrow{ED} and \overrightarrow{EA} , \overrightarrow{CD} and \overrightarrow{CB}

2. Sample answer:



3. \overleftrightarrow{YT} 4. point T 5. no; yes

6. \overleftrightarrow{TVW} , \overleftrightarrow{XTW} , and \overleftrightarrow{VWX} 7. \overleftrightarrow{XY} , \overleftrightarrow{ZY} , \overleftrightarrow{TY}

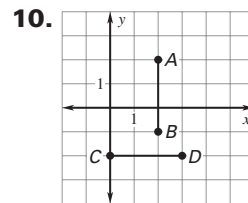
8. no 9. Yes. The given point satisfies each equation. 10. No. The given point does not satisfy each equation. 11. No. The given point does not satisfy each equation.

12. Yes. The given point satisfies each equation.

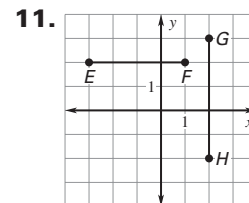
Lesson 1.2

Practice Level A

1. 3.0 cm; Check drawings. 2. 1.5 cm; Check drawings. 3. 2.4 cm; Check drawings. 4. 16
5. 36 6. 21 7. 19 8. 11 9. 42



congruent



not congruent

12. 5 13. 4 14. 6 15. 9 16. 15 17. 10

18. 9 19. 9 20. 37 21. 28 22. 6 23. 14

24. 14 25. $3x + x = 20$; $AB = 15$; $BC = 5$

26. $2x - 5 + 6x = 27$; $AB = 3$; $BC = 24$

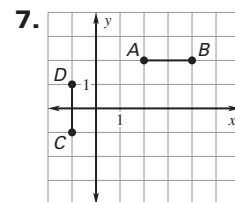
27. $4x + 7 + 5x - 8 = 53$; $AB = 31$; $BC = 22$

28. $3\frac{3}{8}$ in.; $\frac{3}{4}$ in. 29. a. 150 mi b. $2\frac{1}{2}$ h

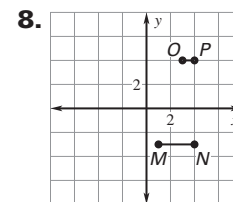
Practice Level B

1. 3.4 cm; Check drawings. 2. 1.8 cm; Check drawings. 3. 2.1 cm; Check drawings. 4. 25.5

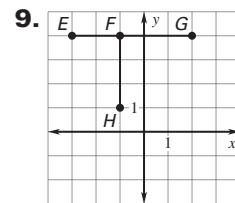
5. 29 6. 6



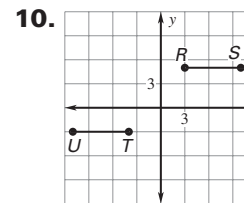
congruent



not congruent



not congruent



congruent

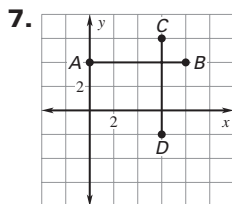
11. 3 12. 9 13. 4 14. 6 15. 6 16. 11

Lesson 1.2, continued

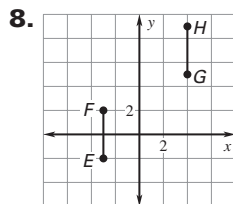
17. 8 18. 2 19. 11 20. 43 21. 33 22. 32
 23. 11 24. 44 25. 24 26. 28 27. 32
 28. $2x + 3x = 25$; $HJ = 10$; $JK = 15$
 29. $\frac{x}{4} + 3x - 4 = 22$; $HJ = 2$; $JK = 20$
 30. $5x - 4 + 8x - 10 = 38$; $HJ = 16$; $JK = 22$
 31. $5x - 3 + x - 9 = 5x$; $HJ = 57$; $JK = 3$
 32. 3.1 mi

Practice Level C

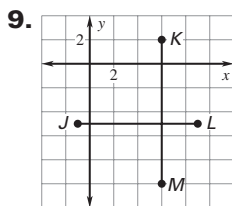
1. 3.3 cm; Check drawings. 2. 1.9 cm; Check drawings.
 3. 2.7 cm; Check drawings. 4. 15.3
 5. 11.5 6. 42.6



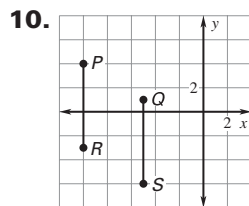
congruent



congruent



not congruent



congruent

11. 6 12. 8 13. 17 14. 13 15. 21 16. 24
 17. 15 18. 30 19. 8.7 20. 21.9 21. 39.3
 22. 11.5 23. 28.9 24. 41.5 25. 16.5
 26. 26.6 27. 23
 28. $7x + 2 + 2x - 1 = 64$; $AB = 51$; $BC = 13$
 29. $10x + 4 + 4x - 3 = 12x + 16$; $AB = 79$;
 $BC = 27$ 30. $4x + 3 + 8x - 11 = 10.5x + 4$;
 $AB = 35$; $BC = 53$
 31. a. 18 mi b. 10.8 mi c. 3.6 mi d. 4.8 mi

Review for Mastery

1. 10 2. 12 3. 6 4. 12 5. congruent 6. not congruent
 7. not congruent 8. congruent

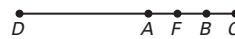
Challenge Practice

1. By the Segment Addition Postulate, you know $AB + BC = AC$ and $BC + CD = BD$. Because $AB = CD$, substitute CD for AB in $AB + BC = AC$ to obtain $CD + BC = AC$. You can then conclude $AC = BD$.
 2. $\overline{QS} \cong \overline{SU} \cong \overline{TV} \cong \overline{RT}$; $\overline{QT} \cong \overline{SV}$;
 $\overline{QU} \cong \overline{RV}$

3. Not sufficient. Counterexample:



4. Not sufficient. Counterexample:



5. Sufficient.
 $AD + DF + FC + CB = AB$

6. a. $AF = GE = CH = HI = ID = 4$;
 $HD = IC = FB = DG = 8$; $AC = CE = 6$;
 $AB = CB = CD = DE = 12$ b. $\frac{4}{13}$; There are a total of 13 segments in the diagram and 4 of those segments have lengths greater than 8.

7. $x^2 + x = 12$; $x = 3$; $LM = 9$, $MN = 3$

8. $x^2 - 5x = 50$; $x = 10$; $LM = 40$, $MN = 10$

9. $2x^2 + 9x = 56$; $x = \frac{7}{2}$; $LM = \frac{49}{4}$, $MN = \frac{175}{4}$

Lesson 1.3

Practice Level A

1. 12 cm 2. 34 cm 3. $16\frac{1}{2}$ in. 4. $12\frac{3}{8}$ in.
 5. 15.9 cm 6. $54\frac{1}{2}$ in. 7. 28 ft 8. $22\frac{1}{4}$ in.
 9. 9 10. 15 11. 19 12. 118 13. 222 14. 86
 15. (3, 4) 16. (4, 5) 17. (6, 1) 18. (11, 21)
 19. 6.4 20. 8.6 21. 4; 0 22. 10; -1
 23. $JK \approx 4.1$, $LM \approx 4.1$; congruent
 24. $PQ \approx 5.8$, $RS = 5$; not congruent

25. a.
 ; 4.2 mi

- b. about 1 h 24 min

26. about 9.8 yd; about 9.4 yd; about 18.4 yd

Practice Level B

1. 7 cm 2. 13.5 ft 3. 9 yd 4. 7.4 m 5. 24
 6. 26 7. 10 8. $(5, -\frac{1}{2})$ 9. (2, 2) 10. (1, 4)
 11. $(-2\frac{1}{2}, -10)$ 12. (-6, 4) 13. (3, -8)
 14. (1, -14) 15. (-19, -3) 16. 3.2 17. 5.4
 18. 4.5 19. 11.3 20. 9; 1.5 21. 7; -4.5
 22. $AB = \sqrt{13}$; $CD = \sqrt{13}$; congruent
 23. $RS = 5$; $TU = 5$; congruent
 24. $KL = \sqrt{85}$; $MN = 9$; not congruent
 25. $OP = 3$; $QR = 5$; not congruent