

# Answers

## 1.3 Start Thinking

Plot the two points. Draw a right triangle containing those points as vertices, along with a third point. Using the coordinate plane, calculate the side lengths of the legs 5 and 1. Then use the Pythagorean Theorem to find the length of the hypotenuse,  $\sqrt{5^2 + 1^2} = \sqrt{26} \approx 5.1$ . This is the distance in blocks between the points.

## 1.3 Warm Up

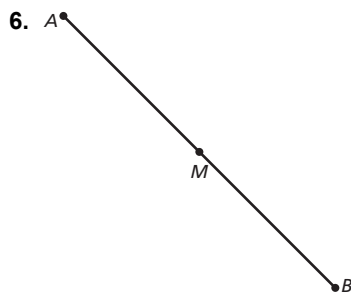
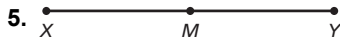
1. 2      2.  $\frac{1}{2}$       3. -2      4. 2

## 1.3 Cumulative Review Warm Up

1.  $x = 62$     2.  $x = 140$     3.  $x = 69$     4.  $x = 109$

## 1.3 Practice A

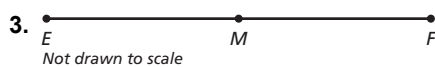
1. line  $d$ ; 30      2.  $\overline{ML}$ ; 11  
3.  $\overline{MR}$ ; 28      4.  $M$ ; 26



7. (3, 2)      8. (4, 2)      9. (2, 7)  
10. (-7, -7)    11. 5      12. about 6.3  
13. about 5.6 cm; about 2.8 cm; The center of the square is the segment bisector of the diagonal.  
14. 60 ft

## 1.3 Practice B

1.  $\overline{MW}$ ; 38      2. line  $l$ ; 30



4. (2, 7)      5. (0, 3)      6. (3, 0)  
7. (5, 13)      8. about 3.2      9. 5

10. no; If one side of the square is  $s$ , then the length of the diagonal is  $\sqrt{s^2 + s^2} = \sqrt{2s^2} = s\sqrt{2}$ .

11. no; There can be only one segment bisector because each segment has only one midpoint.

12. about 4 mi; about 10.5 mi

## 1.3 Enrichment and Extension

1.  $\left(\frac{3x_1 + x_2}{4}, \frac{3y_1 + y_2}{4}\right), \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right), \left(\frac{x_1 + 3x_2}{4}, \frac{y_1 + 3y_2}{4}\right)$

2. a.  $\left(-3, \frac{7}{2}\right), (-2, 5), \left(-1, \frac{13}{2}\right)$

b.  $\left(-\frac{11}{2}, 5\right), (-1, 6), \left(\frac{7}{2}, 7\right)$

3. 13;  $-b$       4. (12, -3) and (-4, -3)

5. yes; The distance between each vertex is  $\sqrt{5}$ .

6. (2, 1, 6)      7.  $\left(-\frac{5}{2}, 6, -\frac{5}{2}\right)$     8.  $\left(\frac{7}{2}, \frac{9}{2}, \frac{3}{2}\right)$

9. 6      10.  $\sqrt{107}$       11.  $\sqrt{89}$

## 1.3 Puzzle Time

IT WANTED TO BE REDUCED

## 1.4 Start Thinking

quad-, penta-, hexa-; *Sample answer:* A quadrasonic sound is a form of surround sound involving four speakers. A pentathlon is an athletic competition for individuals consisting of five events. A hexapod is an animal having six feet, typically with three distinct sets of two legs.

## 1.4 Warm Up

1.  $P = 36$  cm,  $A = 60$  cm<sup>2</sup>  
2.  $P = 274$  in.,  $A = 4386$  in.<sup>2</sup>  
3.  $P = 25.24$  in.,  $A = 39.8161$  in.<sup>2</sup>  
4.  $P = 24$  in.,  $A = 28$  in.<sup>2</sup>

## 1.4 Cumulative Review Warm Up

1. 66 cm      2. 104 m

# Answers

## 1.4 Practice A

- quadrilateral; convex
- hexagon; concave
- about 16.5 units
- 21 square units
- 28 square units
- about 22.6 units
- about 10.5 units
- 32 square units
- 12 square units
- 44 square units
- $(1, -3)$ ; 14 square units
- a. 360 ft   b. 240 ft   c. \$1000

## 1.4 Practice B

- heptagon; convex
- decagon; concave
- about 22.2 units
- 7.5 square units
- 28 square units
- about 13.2 units
- about 25.9 units
- 6 square units
- 36 square units
- 48 square units
- a.  $65 \text{ ft}^2$    b. 40 ft   c. \$242.50
- 4 mi

## 1.4 Enrichment and Extension

- 24 square units
- $x = -4$  or  $x = 8$
- a. about 0.063 square units  
b. about 32 squares  
c. about 2 square units
- about 1 square unit

## 1.4 Puzzle Time

TOO MANY PROBLEMS

## 1.5 Start Thinking

If the angle is larger than a right angle, it is obtuse. If the angle is smaller than a right angle, it is acute.

## 1.5 Warm Up

- $x = 70^\circ$
- $r = 179^\circ$
- $n = 144^\circ$
- $y = 90^\circ$
- $t = 65^\circ$
- $w = 120^\circ$

## 1.5 Cumulative Review Warm Up

- $r = 40^\circ$
- $w = 25^\circ$
- $y = 40^\circ$
- $v = 45^\circ$

## 1.5 Practice A

- $\angle XYZ, \angle ZYX, \angle Y$
- $\angle PQR, \angle RQS, \angle SQP$
- $110^\circ$ ; obtuse
- $\angle BEH, \angle CFI$
- $\angle AGD, \angle EBH, \angle BHE, \angle FCI, \angle CIF$
- $92^\circ$
- $44^\circ$
- $55^\circ$
- $x = 33$
- a. *Sample answer:*  $\angle EFG$  is acute,  $\angle DFE$  is right,  $\angle FBC$  is obtuse,  $\angle ABC$  is straight.  
b. 15 angles  
c.  $70^\circ$   
d.  $110^\circ$

## 1.5 Practice B

- $50^\circ$ ; acute
- $90^\circ$ ; right
- $130^\circ$ ; obtuse
- $180^\circ$ ; straight
- $44^\circ$
- $46^\circ$
- $47^\circ$
- $23^\circ$
- yes; Because an acute angle is less than  $90^\circ$ , the sum of three acute angles can be equal to  $180^\circ$ .
- a. *Sample answer:*  $\angle ACE$  is acute,  $\angle AEC$  is right,  $\angle CDE$  is straight.  
b.  $\angle DAE$   
c.  $58^\circ$   
d.  $119^\circ$

## 1.5 Enrichment and Extension

- $6 < x < 51$
- $m\angle DEG = 40^\circ, m\angle FEG = 24^\circ$
- 6;  $24^\circ$
- $2\sqrt{3}$
- $100^\circ$
- $x = 5, y = 12$

