Answers

1.4 Practice A

1. quadrilateral; convex **2.** hexagon; concave

3. about 16.5 units **4.** 21 square units

5. 28 square units **6.** about 22.6 units

7. about 10.5 units **8.** 32 square units

9. 12 square units **10.** 44 square units

11. $(1, -3)$; 14 square units

12. a. 360 ft **b.** 240 ft **c.** \$1000

1.4 Practice B

1. heptagon; convex **2.** decagon; concave

3. about 22.2 units **4.** 7.5 square units

5. 28 square units **6.** about 13.2 units

7. about 25.9 units **8.** 6 square units

9. 36 square units **10.** 48 square units

11. a. 65 ft^2 **b.** 40 ft **c.** \$242.50

12. 4 mi

1.4 Enrichment and Extension

1. 24 square units **2.** $x = -4$ or $x = 8$

3. a. about 0.063 square units
b. about 32 squares
c. about 2 square units

4. 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

1. $x = 70°$ **2.** $r = 179°$ **3.** $n = 144°$

4. $y = 90°$ **5.** $t = 65°$ **6.** $w = 120°$

1.5 Cumulative Review Warm Up

1. $r = 40°$ **2.** $w = 25°$ **3.** $y = 40°$ **4.** $v = 45°$

1.5 Practice A

1. $\angle XYZ$, $\angle ZYX$, $\angle Y$

2. $\angle PQR$, $\angle RQS$, $\angle SQP$

3. 110°; obtuse **4.** $\angle BEH$, $\angle CFI$

5. $\angle AGD$, $\angle EBH$, $\angle BHE$, $\angle FCI$, $\angle CIF$

6. 92° **7.** 44° **8.** 55° **9.** $x = 33$

10. a. *Sample answer:* $\angle EFG$ is acute, $\angle DFE$ is right, $\angle FBC$ is obtuse, $\angle ABC$ is straight.
b. 15 angles
c. 70°
d. 110°

1.5 Practice B

1. 50°; acute **2.** 90°; right

3. 130°; obtuse **4.** 180°; straight

5. 44° **6.** 46° **7.** 47° **8.** 23°

9. yes; Because an acute angle is less than 90°, the sum of three acute angles can be equal to 180°.

10. a. *Sample answer:* $\angle ACE$ is acute, $\angle AEC$ is right, $\angle CDE$ is straight.
b. $\angle DAE$
c. 58°
d. 119°

1.5 Enrichment and Extension

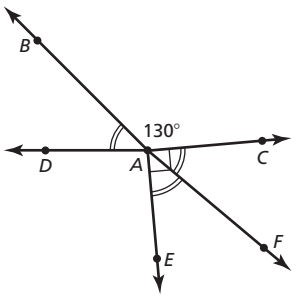
1. $6 < x < 51$

2. $m\angle DEG = 40°$, $m\angle FEG = 24°$

3. 6; 24° **4.** $2\sqrt{3}$

5. 100° **6.** $x = 5, y = 12$

7.



Answers

8. 45° **9.** 45° **10.** 175°

11. 95° **12.** 140° **13.** 140°

1.5 Puzzle Time

IS A CARRIER

1.6 Start Thinking

The angle formed is now greater than 180°. So, add the angle formed from the negative x-axis to its position in Quadrant III to 180° to get the total angle measure.

1.6 Warm Up

1. $x = 3$ **2.** $c = -1$ **3.** $x = -1$

4. $n = 2$ **5.** $x = -15$ **6.** $x = -4$

1.6 Cumulative Review Warm Up

1. $n - 14 = 8, n = 22$

2. $2(5n - 6) = 18, n = 3$

3. $14 = 7(n - 2), n = 4$

4. $2(x + 6) = [x + (x + 2) + (x + 4)] + 5, x = 1,$ $x + 2 = 3, x + 4 = 5, x + 6 = 7$

1.6 Practice A

1. $\angle FJG, \angle GJH$ **2.** $\angle CAD, \angle EJF$

3. $\angle BAC, \angle EJG$

4. 54° **5.** 105°

6. $m\angle WXY = 149°, m\angle YXZ = 31°$

7. $m\angle ABC = 48°, m\angle CBD = 42°$

8. $\angle 4$ and $\angle 5$

9. yes; The sides form two pairs of opposite rays.

10. no; The sides do not form two pairs of opposite rays.

11. $x + (x + 24) = 180$; 78° and 102°

12. $x + 3x = 90$; 22.5° and 67.5°

13. $x + (\frac{1}{2}x - 15) = 180$; 50° and 130°

14. a. *Sample answer:* $\angle 1, \angle 2$

b. *Sample answer:* $\angle 2, \angle 5$

c. $\angle 6$ and $\angle 5$, $\angle 8$ and $\angle 5$

d. 60°; $\angle 1$ and $\angle 3$ are vertical angles so they have the same angle measure.

1.6 Practice B

1. $\angle AEB$ and $\angle BEC$ **2.** $\angle BEC$ and $\angle HFJ$

3. $\angle CED$ and $\angle HFK$

4. 19° **5.** 153.3°

6. $m\angle ABC = 84°, m\angle CBD = 96°$

7. $m\angle WXY = 23°, m\angle YXZ = 67°$

8. $\angle 1$ and $\angle 2$, $\angle 3$ and $\angle 2$

9. $\angle 7$ and $\angle 8$

10. yes; The sides form two pairs of opposite rays.

11. no; The sides do not form two pairs of opposite rays.

12. $x + (2x + 9) = 90$; 27° and 63°

13 $x + 4x = 180$; 36° and 144°

14. $x + (\frac{1}{2}x + 51) = 180$; 86° and 94°

15. never; The sum of the angle measures of a linear pair is 180°.

16. sometimes; When the sides of two angles form two pairs of opposite rays that meet at a 90° angle, the sum of the angle measures is 180°.

1.6 Enrichment and Extension

1. supplementary **2.** complementary

3. neither **4.** supplementary

5. neither **6.** complementary

7. complementary: not possible, supplementary: $\frac{1}{5}\pi$

8. complementary: not possible, supplementary: $\frac{19}{42}\pi$

9. complementary: $\frac{11}{34}\pi$, supplementary: $\frac{14}{17}\pi$

10. complementary: $\frac{1}{10}\pi$, supplementary: $\frac{3}{5}\pi$