Warm Up 18

1. acute
2. one right angle and two acute angles
3. isosceles right triangle

Lesson Practice 18

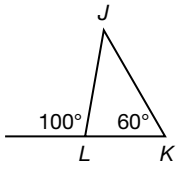
a. 70°

b. 60°

c. 70°

d. 65°

e. triangle *JKL* with *K* marked 60° and *L* marked 100°



f. 40°

g. 56°

Practice 18

1. **a.** $6\frac{3}{8}$ in.

   b. 15 in.

2. $x = 21$ and $y = 10$

3. **a.** *If a rock is not metamorphic, then it is not crystalline.*

   b. no

4. *A, E; D*

5. $x = 4$

6. **C**

7. Yes, due to the fact that $\overleftrightarrow{CD} \parallel \overleftrightarrow{AB}$ by the Corresponding Angles Postulate. For the same reason $\overleftrightarrow{CD} \parallel \overleftrightarrow{EF}$. Since lines parallel to the same line are parallel, $\overleftrightarrow{EF} \parallel \overleftrightarrow{AB}$.

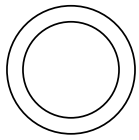
8. 16 in. by 4 in.

9. 80°

10. irregular hexagon, neither equiangular nor equilateral, concave

11. Since the transversal is a perpendicular, all pairs of two angles will be supplementary.

12. Alternate interior pairs are $\angle 3$ and $\angle 5$, $\angle 2$ and $\angle 8$. Since m and n are parallel, by the Alternate Interior Angles Theorem, $\angle 3 \cong \angle 5$; since $\angle 1$ and $\angle 3$ are vertical angles, $\angle 1 \cong \angle 3$; since congruence is transitive, $\angle 1 \cong \angle 5$; similar argument if $\angle 2 \cong \angle 8$, then $\angle 4 \cong \angle 8$.

13.  ;

Sample: There are two patterns. The first pattern involves circles that get increasing larger and go from shaded, to not shaded with a single border, to not shaded with a double border. The second pattern involves square brackets that appear on every other item and alternate appearing on the top and the bottom. Since the last item is a not shaded circle with a single border and a square bracket on bottom, the next item will be a larger circle, not shaded with two borders and no bracket.

14. 105°

15. $y = \frac{1}{3}x - 2$

16. 103°

17. **a.** Sample: If a polygon is concave, then it is irregular.

b. If a polygon is regular (not irregular), then it is convex (not concave).

c. both true

18. acute triangle; Each pair of remote interior angles has less than 90° total measure, by Exterior Angles Theorem, so no interior angle can be right or obtuse.

19. **a.** *When inputs are 1 and 0, output is 1.*

b. Inputs 0 and 0, output 1; No

20. If a triangle does not have all three sides congruent, then it is not obtuse; neither

21. See student work.

22. $12x - 36$

23. $\angle 3$ and $\angle 5$; Converse of the Alternate Interior Angles Theorem; Since $\angle 3$ and $\angle 5$ are alternate interior angles, if they are congruent, the lines are parallel.

24. **D**

25. 4

26. Slope should be $\frac{1}{2}$; *y*-intercept has been read from given equation, not from slope-intercept form (should be 2).

27. The slope formula can be used.

28. 22°

29. obtuse

30. If they pass through the plane at the same point, one point of intersection. If they pass through different points on the plane, two points of intersection.