

**Warm Up 44**

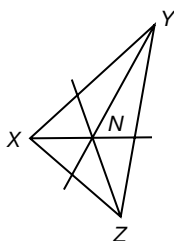
1. extremes
2.  $30^\circ$ ,  $60^\circ$ , and  $90^\circ$ .
3.  $x = 2.1$ ,  $y = 0.7$
4.  $x = 2.67$ ,  $y = 7.5$
5. C

**Lesson Practice 44**

- a.  $x = 7$ ,  $y = 9$
- b.  $x = 3$  or  $-3$ ,  $y = 0$ ; The ratio of the perimeters of  $\triangle ABC$  to  $\triangle DEF$  is 11:33 or 1:3.
- c. 27 inches
- d. 144 cm
- e. 3.75 feet; 10.5 feet

## Practice 44

- $x = 9, y = 12$
- $\angle STV$  and  $\angle UTV$
- She should place the fountain at the incenter because it is equidistant from each side of the triangle.



- The sum of the squares of the lengths of the two sides of the frame should be equal to the square of the diagonal that runs between two opposite corners.
- Diagonals of a parallelogram bisect each other; Opposite sides of a parallelogram are congruent.
- 1:2
7. a.  $m = -1, b = 3$   
b.  $y = -x + 3$
- 20 inches
- He is correct.  $\triangle ABC \cong \triangle XYZ$  by ASA Theorem, so  $XY = AB = 5$  by CPCTC.
- $(23 + 2.5\pi)$  inches
- 9 cm and 6 cm
- The y-intercept has no effect on the slope of the line.
- 4:5
- Since  $11 + 15 = 26$ , which is more than the largest side length given, the triangle can be made.
- $(3, 0)$
- a.  $x = 14.5$   
b. 24.0 cm; 38.8 cm
- $231.8 \text{ in}^2$
- 3.61

19. The polygon would need 11.5 sides, which is impossible.
20. obtuse triangle
21. 6 units
22. Draw a triangle with each school at a vertex. Find the perpendicular bisectors of all three sides of the triangle to find the circumcenter of the triangle. The circumcenter is the optimal location for the emergency siren.
23. D
24. 9 sides
25. approximately 64 yards
26. 5 inches
27. a. 17 cm  
b. 120 cm  
c.  $638 \text{ cm}^2$
28. perpendicular
29.  $30^\circ$
30.  $\overline{JI}$  is a chord,  $\overline{FD}$ ,  $\overline{FI}$ , and  $\overline{FJ}$  are radii,  $\overline{JI}$  is a diameter,  $\overline{GH}$  is a chord, the lines through  $\overline{GH}$  and  $\overline{JI}$  are secants and  $D$  is a point of tangency with the line tangent through  $\overline{DE}$ .