

Warm Up 52

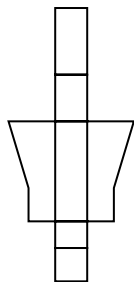
1. 156.25 cm^2 ; square
2. parallelogram
3. 52.2 m; a rhombus and a square

Lesson Practice 52

- a. 5.4 in.
- b. 48°
- c. 42°
- d. square
- e. 128 ft

Practice 52

1.

2. $(-2.5, -5)$

3. Answers may vary, but should mention that each figure has congruent parallel bases—the bases of the prism are octagonal, the bases of the cylinder are circular. As the number of sides of the base of a prism increases, the solid becomes more like a cylinder.

4. $x = 3.5$

5. She could fold the paper on a diagonal. This would determine whether the side lengths are equal. If it doesn't fold perfectly into an isosceles triangle, then it is not a square.

6. 4°

7. No, because she took the reciprocal instead of the negative reciprocal of the slope.

8. $\triangle PQR \sim \triangle STU$ by SAS Similarity

9. A parallelogram can only be similar to a rectangle if the parallelogram is also a rectangle with the same proportions.

10. $125^\circ, 55^\circ, 125^\circ, 55^\circ$

11. 2.7

12. $37.8^\circ, 37.8^\circ$

13. D

14. $y = \pm 3\sqrt{3}$

15. $KM = LN = \sqrt{50}$;
 slope of $\overline{KM} = -7$,
 slope of $\overline{LN} = \frac{1}{7}$;
 midpoint of \overline{KM} is
 $(\frac{1}{2}, -\frac{5}{2})$,
 midpoint of \overline{LN} is
 $(\frac{1}{2}, -\frac{5}{2})$

16. 60°
17. 80°
18. a. $\angle Q$
b. 47°
19. They are congruent.
20. Assume $m\angle RQS \leq m\angle S$.
The side opposite a smaller angle is smaller, so RS must be less than or equal to RQ . This contradicts the given information, so the assumption is false. Therefore,
 $m\angle RQS > m\angle S$.
21. 100°
22. $x < 3\sqrt{5}$
23. 15 feet
24. He can measure the diagonals to verify that their lengths are equal.
25. a. 22 cm
b. 28 cm
c. $(6n + 4)$ cm
26. 45 feet
27. Find the perpendicular bisectors of two of the sides of the triangle. Their intersection will be the center of the circle and the distance from the center to the vertices of the triangle will be the radius of the circle.
28. $AB = CD = 4.5$,
 $BC = AD = 1.5$
29. \overline{AB} is not congruent to \overline{CD} .
30. 8 meters