UNIT 3
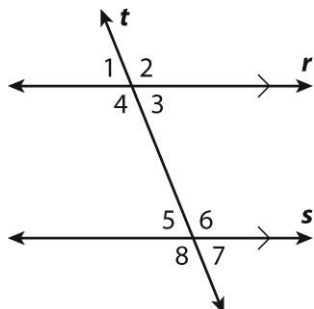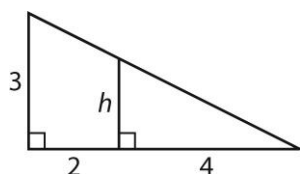
Expressions, Equations, and Relationships in Geometry

1. In the figure below, which angle pair is a
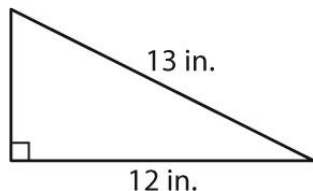

   pair of corresponding angles?

   A ∠1 and ∠3   C ∠5 and ∠6

   B ∠2 and ∠4   D ∠4 and ∠8

2. The measures of the three angles of a triangle are given by $4x$, $2x$, and $6x$. What is the measure of the smallest angle?

   A 15°   C 60°

   B 30°   D 90°
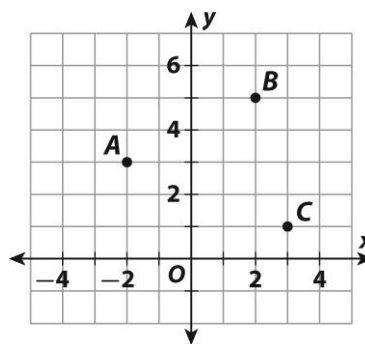
3. What is the value of h in the triangle below?

   A 2   C 4

   B 3   D 6

4. What is the length of the unlabeled side?

   A 5 in.   C 16 in.
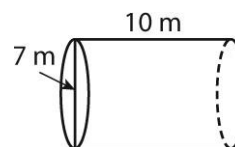
   B 7 in.   D 25 in.

5. Which set of lengths are the side lengths of a right triangle?

   A 1, 9, 12   C 5, 10, 20

   B 3, 4, 5   D 7, 11, 13

6. What is the distance between point B and point C?

   A 2 units   C 8.6 units

   B 4.1 units   D 15 units

7. Using 3.14 for π, what is the volume of the cylinder below to the nearest tenth?
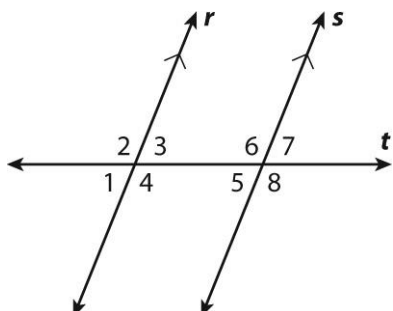

   A 109.9 m³   C 384.7 m³

   B 219.8 m³   D 1538.6 m³

8. A cone-shaped paper cup is 2.5 inches high and has a radius of 1.5 inches. What is its volume to the nearest hundredth?

   A 3.93 in³   C 7.85 in³

   B 5.89 in³   D 16.77 in³

9. Using 3.14 for π, what is the volume of a ball with a radius of 3 centimeters?

   A 7 cm³   C 113 cm³

   B 13 cm³   D 127 cm³

10. What is the side length of a cube that has a total surface area of 54 square centimeters?

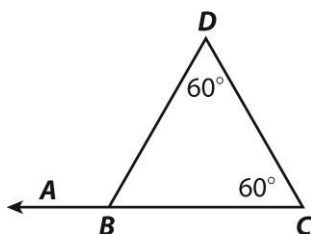   A 2 cm   C 4 cm

   B 3 cm   D 5 cm

UNIT 3

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11. In the figure below, name one pair of same-side interior angles.

_____

12. What is the measure of $\angle DBA$ in the diagram below?

_____

13. Two sides of a right triangle have lengths of 4 centimeters and 7 centimeters. The third side is **not** the hypotenuse. How long is the third side?
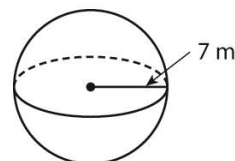
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14. A fence is 6 feet tall. A rope is attached to the top of the fence and fastened to the ground 5 feet from the base of the fence. What is the length of the rope?

_____

15. A right triangle has legs that measure 4 centimeters and 9 centimeters. What is the length of the hypotenuse in centimeters?
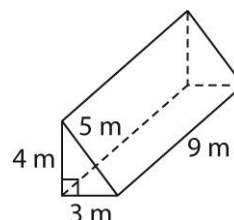
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16. A cylinder has a radius of 6 inches and a height of 4 inches. What is its volume rounded to the nearest tenth?

_____

17. Using 3.14 for π, what is the volume, to the nearest tenth, of a cone that has a height of 10 feet and a base with radius 3 feet?

_____

18. Using 3.14 for π, what is the volume of the sphere to the nearest tenth?

_____

19. What is the total surface area of the triangular prism shown below?

_____

20. A cylinder has a circumference of 16π centimeters and a height of 10 centimeters. What is the lateral area of the cylinder?

_____

Name _____ Date _____ Class_____