Name _____ Date _____ Class _____

UNIT 6

Relationships in Geometry

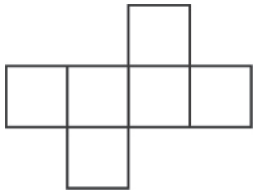
Unit Test: D

1. The point *A* is located at (2, 4) on the coordinate plane. If point *A* is reflected across the *y*-axis, what are the coordinates of the reflected point?

   A (2, –4) B (–2, –4)

   C (–2, 4)

2. Which solid could be formed from this net?



   A rectangular prism

   B square pyramid

   C cube

3. What is the distance from point P at (2, 4) to point Q at (9, 4) on the coordinate plane?

   A 11 units B 7 units

   C 5 units

4. A polygon with 4 vertices is drawn on the coordinate plane. What is the best name for this polygon?

   A quadrilateral

   B hexagon

   C octagon

5. A box is 4 inches wide, 5 inches long, and 3 inches tall. Which equation could be used to find the surface area of the box?

   A $SA = 2(4 + 5) + 2(5 + 3) + 2(3 + 4)$

   B $SA = 2(4^2) + 2(5^2) + 2(3^2)$

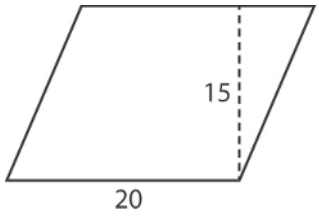
   C $SA = 2(4 \times 5) + 2(5 \times 3) + 2(3 \times 4)$

6. A window is shaped like a parallelogram. The base of the window is 15 inches. The area is 450 square inches. What is the height?

   A 15 in. B 30 in.

   C 45 in.

7. What is the area of the parallelogram below?



   A 35 square units

   B 75 square units

   C 300 square units

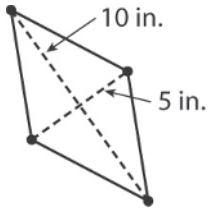
8. A trapezoid has bases of 15 inches and 7 inches. Its height is 6 inches. Which equation can you use to find the area?

   A $A = \frac{1}{2} \times 6(15 + 7)$

   B $A = \frac{1}{2} \times 6(15 - 7)$

   C $A = \frac{1}{2} \times 15(6 + 7)$

9. What is the area of the rhombus below?



   A 15 in^2 B 25 in^2

   C 50 in^2

10. A kitchen drawer has a volume of 1,125 cubic inches. The drawer is 15 inches long and 5 inches deep. What is the width of the drawer?

    A 14 inches

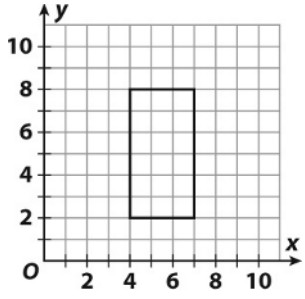
    B 15 inches

    C 16 inches

11. Miguel has a kite shaped like a rhombus. The two diagonals measure 10 inches and 3 inches. What is the area of the kite?

_____

12. What is the perimeter of this rectangle?



_____

13. The front face of Arpad's roof is shaped like a triangle. It has a base of 55 feet and a height of 10 feet. What is the area of Arpad's roof?

_____

14. Gina has a decal shaped like a trapezoid. The sum of the lengths of both bases is 30 inches. The area is 75 square inches. What is the height of the decal?

_____

15. The face of an electric guitar is shaped like a triangle. It has a height of 20 inches and a base of 7 inches. Write an equation you could use to find the area of the face of the guitar.

_____

16. The coach's equipment room is shaped like a parallelogram. The parallelogram has a base of 30 feet and height of 15 feet. What is the area of the equipment room?

_____

17. The volume of a suitcase is 1,200 cubic inches. Its length is 20 inches, and its height is 10 inches. What is the width? Write an equation to represent the width. Then find the width of the suitcase.

_____

18. A box of cereal bars is 3 inches wide, 4 inches long, and 5 inches high. What is the volume of the box of cereal bars?

_____

19. A bathtub is filled with water. It holds 60 cubic feet of water. The tub is 6 feet long and 5 feet wide. What is the height of the tub?

_____

20. Juan has a box that is 3 feet long, 2 feet wide, and 3 feet high. What is the volume of the box?

_____

21. The front of Priscilla's house has one large window shaped like a triangle. The window has a base of 7 feet and a height of 4 feet. What is the area of the window?

_____

22. The owner of a smoothie company wants to rent space in the new mall. He is choosing between two spaces. The floor plans are both shaped like parallelograms. The first parallelogram is 11 feet high with a base of 15 feet. The second space has an area of 160 square feet. How much larger is the first store than the second store?

_____