

Name: Key

Date: _____

1. The area of a triangle is 24 square centimeters. If the base of this triangle is 8 centimeters, find the number of centimeters in the altitude.



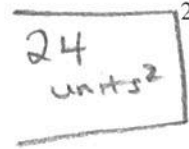
$$A = \frac{1}{2} b \cdot h$$

$$24 = \frac{1}{2} (8) h$$

$$24 = 4h$$

$$6 = h \text{ cm}$$

2. Find the area of a right triangle whose legs have lengths 6 and 8.



$$A = \frac{1}{2} b \cdot h$$

$$A = \frac{1}{2} (6)(8)$$

$$A = 24$$

3. A garden in the shape of an equilateral triangle has sides whose lengths are 10 meters. What is the area of the garden?

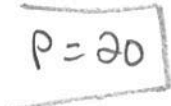


- A. 25 m² B. 25 m² C. 50 m² D. 50 m²



To find height we Pythag. Thm. (omit for now)

4. Find the perimeter of a square whose area is 25.



$$P = 5 \cdot 4$$

$$P = 5 + 5 + 5 + 5$$

$$P = 20$$

5. Which figure has the largest area?



- A. a square whose side measures 6

- B. a circle whose diameter measures 6

$$\pi (3)^2 = 9\pi \approx 28.27$$

- C. a triangle whose base and height each measures 6

$$\frac{1}{2} (6)(6) = 18$$

- D. an equilateral triangle whose side measures 6

$$x^2 + 3^2 = 6^2$$

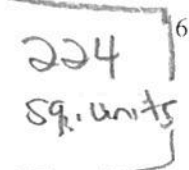
$$x^2 = 36 - 9$$

$$x^2 = 27$$

$$x = 5$$

$$\frac{1}{2} (6)(5) = 15$$

6. The bases of a trapezoid have lengths 10 and 18. If the height of the trapezoid is 6, what is the area of the trapezoid?



$$A = \frac{1}{2} (b_1 + b_2) h$$

$$A = \frac{1}{2} (10 + 18)(6)$$

$$A = \frac{1}{2} (28)(6)$$

$$= 224$$

7. In a rectangle, the length is twice the width, and the perimeter is 48. Find the area of the rectangle.

$$P = 5 \cdot 0.5$$

$$48 = w + 2w + w + 2w$$

$$48 = 6w$$

$$8 = w$$

$$L = 2w = 16$$

$$A = lw$$

$$A = 16(8)$$

$$A = 128$$

8. Mr. Santana wants to carpet exactly half of his rectangular living room. He knows that the perimeter of the room is 96 feet and that the length of the room is 6 feet longer than the width. How many square feet of carpeting does Mr. Santana need?

$$P = 5 \cdot 0.5$$

$$96 = 4w + 12$$

$$84 = 4w$$

$$21 = w$$

$$L = 27$$

$$A = 27(6)$$

$$A = 567$$

9. What is the volume, in cubic centimeters, of a cube whose edge measures 2 centimeters?

$$V = l \cdot w \cdot h$$

$$V = 2 \cdot 2 \cdot 2$$

$$V = 8 \text{ cm}^3$$

10. The volume of a rectangular solid is 180 cubic centimeters. The length is 10 centimeters and the width is 4 centimeters. Using the formula $V = lwh$, find the number of centimeters in the height.

$$V = lwh$$

$$180 = 10(4)h$$

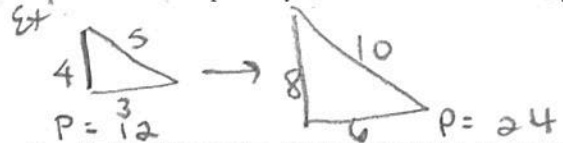
$$\frac{180}{40} = \frac{40h}{40}$$

$$h = 4.5 \text{ cm}$$

11. If the length of each side of a triangle is doubled, then its perimeter

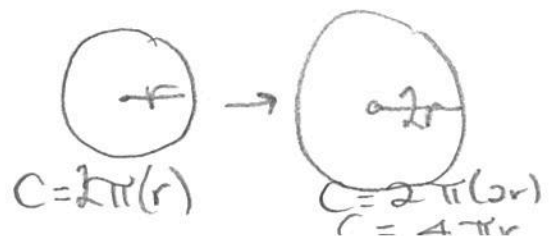
- A. remains the same B. is multiplied by 2

- C. is multiplied by 4 D. is increased by 4



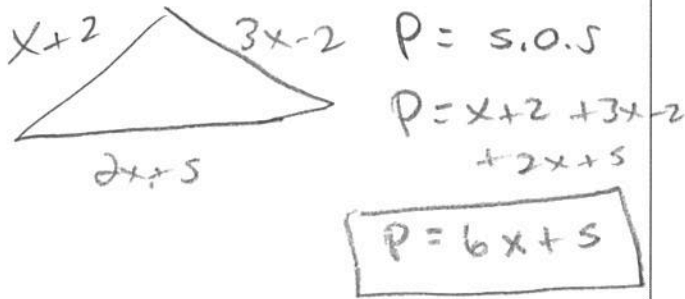
12. If the radius of a circle is doubled, then the circumference of the circle is multiplied by

- A. $\frac{1}{2}$ B. 2 C. 16 D. 4

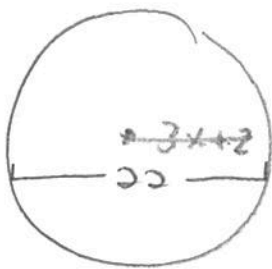


8R Review for Lesson Quiz

13. The lengths of the sides of a triangle are represented by $x+2$, $3x-2$, and $2x+5$. Express the perimeter of the triangle as a binomial in terms of x .



14. The radius of a circle is represented by $3x+2$, and the length of the diameter is 23 centimeters. Find the value of x , in centimeters.

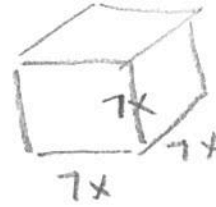


$d = 2r$
 $22 = 2(3x+2)$
 $22 = 6x+4$
 $18 = 6x$
 $3 = x$

$x = 3 \text{ cm}$

15. If the length of a side of a cube is $7x$, which expression represents the cube's volume?

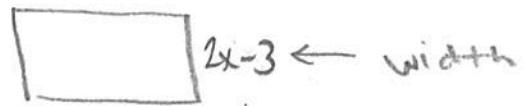
A. $7x^3$ B. $49x^3$ C. $343x$ D. $343x^3$



$V = l \cdot w \cdot h$
 $V = (7x)(7x)(7x)$
 $V = 343x^3$

16. The width of a rectangle is 3 less than twice the length, x . If the area of the rectangle is 43 square feet, which equation can be used to find the length, in feet?

A. $2x(x-3) = 43$ B. $x(3-2x) = 43$
 C. $2x+2(2x-3) = 43$ D. $x(2x-3) = 43$



x
 \uparrow
 length

$A = lw$
 $43 = x(2x-3)$