Geometry Practice G.MG.A.3: Perimeter

NAME:_____

1. The perimeter of a square is 48 inches. What
    is the length of one of the sides of the square?

2. If the perimeter of a square is about 28 inches,
    which of the following could be the
    measurement of one of the sides?

    [A] 6.3   [B] 6.8   [C] 2.5   [D] 8.6

3. Use any problem solving strategy to solve the
    following problem. A square has a perimeter
    of $16x^4 + 4$. What is the length of each side of
    the square?

4. Suppose each step you take is 0.5 m. How
    many steps will it take you to walk around a
    square room with a side of 4 m?

    [A] 16 steps   [B] 32 steps

    [C] 20 steps   [D] 4 steps

5. Use any problem solving strategy to solve the
    following problem. The length of a side of a
    square is given by the formula $s = \sqrt{4x^2}$. If s
    is a rational number, what are the possible
    values for x?

6. Find the perimeter of the figure below. Write
    your answer in simplest radical form.
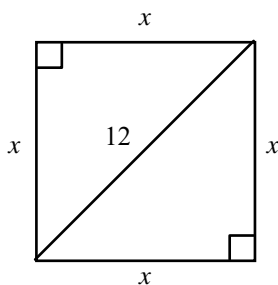
7. The maximum perimeter of a unit square (1
    unit by 1 unit) is four units. The maximum
    perimeter of a figure made up of two unit
    squares is 6 units. Find the maximum
    perimeters for figures comprising 3, 4, 5, 6,
    and 7 unit squares and then write a formula
    for the maximum perimeter of a figure made
    up of n unit squares.

8. Crystal wants to put a fence around her
    vegetable garden. Her garden is 5 ft wide and
    4 ft long. She plans to put a post at each
    corner and at every foot. How many fence
    posts will Crystal need?

    [A] 19   [B] 18   [C] 14   [D] 20

9. Use any problem solving strategy to solve the
    following problem. Suppose you are fencing a
    rectangular dog pen with 100 ft of fencing.
    The pen is to be 10 feet longer than it is wide.
    What are the dimensions of the pen?

10. Use any problem solving strategy to solve the
    following problem. The formula for the
    perimeter of a rectangle is $P = 2(l + w)$. If the
    width of a rectangle is half its length, how
    many times its length is its perimeter?

11. The width of a rectangle is 20 centimeters.
    Find all possible values for the length of the
    rectangle if the perimeter is at least 584
    centimeters.

    [A] $x \geq 29.20$ cm   [B] $x \geq 146$ cm

    [C] $x \geq 272$ cm   [D] $x \geq 126$ cm

[1] 12 inches

[2] B

[3] $4x^4 + 1$

[4] B

[5] Any rational number greater than 0 is a possible value for x.

[6] $24\sqrt{2}$

[7] 3 unit squares: 8 units; 4 unit squares: 10 units; 5 unit squares: 12 units; 6 unit squares: 14 units; 7 unit squares: 16 units;
$2n + 2 = 2(n + 1)$

[8] B

[9] 20 ft by 30 ft

[10] 3

[11] C