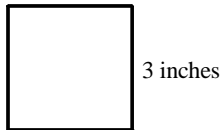


NAME: _____

P.I. G.G.39: Investigate, justify, and apply theorems about special parallelograms (squares) involving their angles, sides, and diagonals

1. What is the perimeter of the square?



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

3. 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

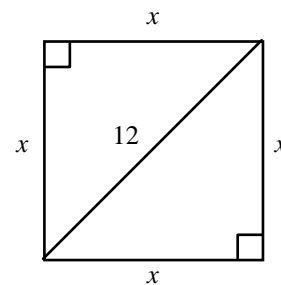
4. Use any problem solving strategy to solve the following problem. A square has a perimeter of $16x^4 + 4$. What is the length of each side of the square?

5. 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

6. 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 ?

7. Find the perimeter of the figure below. Write your answer in simplest radical form.



8. 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.

[1] 12 inches

[2] 12 inches

[3] B

[4] $4x^4 + 1$

[5] B

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

[7] $24\sqrt{2}$

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;

[8] $2n + 2 = 2(n + 1)$