Perimeter & Area of Similar Figures – Project

Use the original rectangle measurements to complete the table**.**

Dilation	Measurements	Perimeter	Area
Original Rectangle	Width=4 ; Length=3 4 X 3 **units**	**4)**	**8)**
2 times larger	**1)**	**5)**	**9)**
3 times larger	**2)**	**6)**	**10)**
3 times smaller	**3)**	**7)**	**11)**

12) If you dilate a figure to make it 4 times larger, how much longer is each side of the new figure compared to each side of the original figure? What is the multiplier?

Answer: _____

13) If you dilate a figure to make it 4 times larger, how much larger is the perimeter of the new figure compared to the perimeter of the original figure? What is the scale factor?

Answer: _____

14) If you dilate a figure to make it 4 times larger, how much larger is the area of the new figure compared to the area of the original figure? What is the scale factor?

Answer: _____

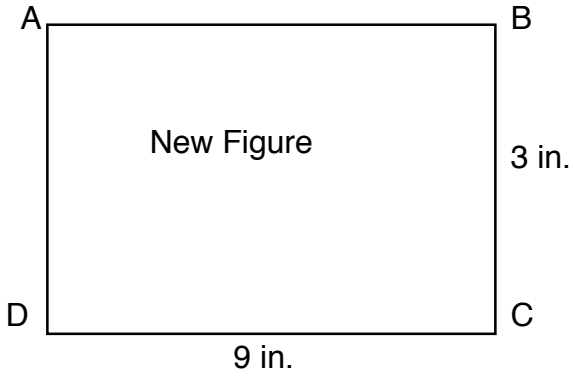
15) What is the relationship between the perimeter of the new figure compared to how much it was dilated?

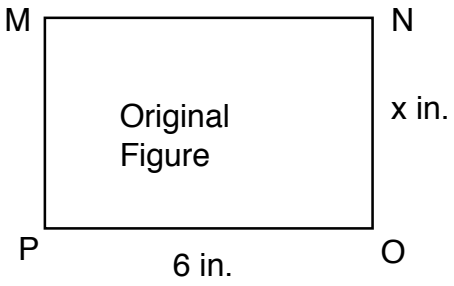
Answer: _____

16) What is the relationship between the area of the new figure compared to how much it was dilated?

Answer: _____

17) The rectangles below are similar.





a) What is the scale factor of rectangle MNOP to rectangle ABCD? Simplify your ratio.

b) What is the value of x? Use mathematics to explain how you determined your answer. Use words, symbols or both in your explanation.

c) What is the perimeter of each rectangle?

d) What is the ratio of the Perimeter of Rect. MNOP to the Perimeter of Rect. ABCD? Simplify your ratio.

18) If the scale factor from triangle DEF to triangle D'E'F' is 5:1, how much larger is the perimeter of triangle D'E'F' than the perimeter of the triangle DEF? **Explain**.

19) If the original triangle has a perimeter of 5 in. and the dilated triangle has a perimeter of 20 in., what was the scale factor in this dilation? **Explain**.

20) If the original triangle has an area of 12 in^2 and the dilated triangle has an area of 108 in^2. What was the scale factor in this dilation? **Explain**.