

Key



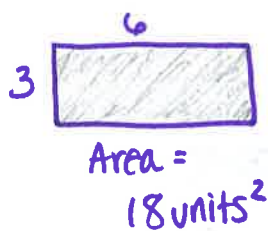
Learning Targets

 I can relate scale to area of similar figures

 I can use corresponding side lengths to compute the area of a similar figure

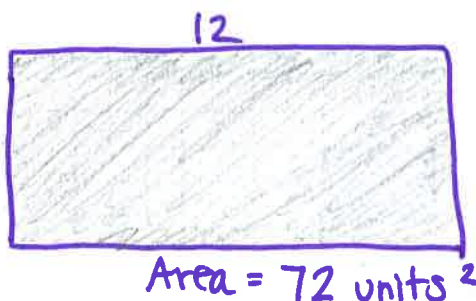
Area with Scales

1. A rectangle that is 3 cm by 6 cm is scaled by a factor of 2. What is the area of the new figure? Draw and label a picture of both rectangles.

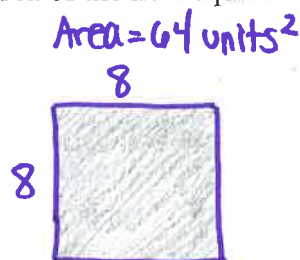


$$* \begin{array}{|c|} \hline SF \\ \hline 2 \\ \hline \end{array} = 6$$

$$* 2^2 =$$



2. A square with side lengths of 8 inches is scaled by a factor of $\frac{1}{4}$. What is the side length and area of the new square? Draw and label a picture of both rectangles.



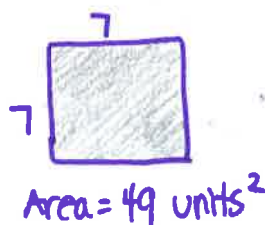
$$* \left(\frac{1}{4}\right)^2 =$$

$$* \begin{array}{|c|} \hline SF \\ \hline \frac{1}{4} \\ \hline \end{array} = 2$$

Area = 4 units²

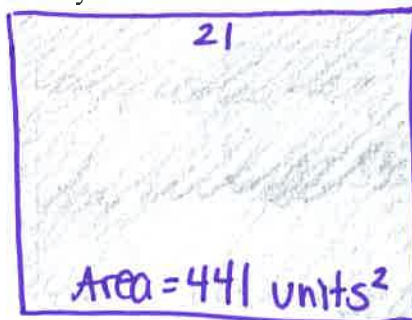


3. A square has an area of 49 in². The square is scaled by a factor of 3. What is the area of the new figure?

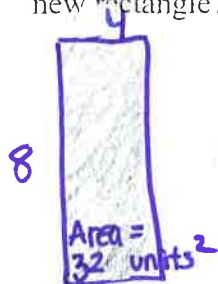


$$* \begin{array}{|c|} \hline SF \\ \hline 3 \\ \hline \end{array} = 21$$

$$* 3^2 =$$

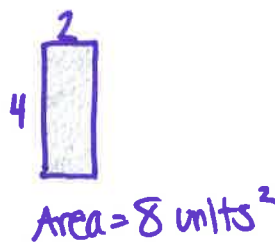


4. A rectangle has dimensions of 8 x 4. It is scaled by a factor of $\frac{1}{2}$. What are the new dimensions of the rectangle? What is the area of the original rectangle? What is the area of the new rectangle?

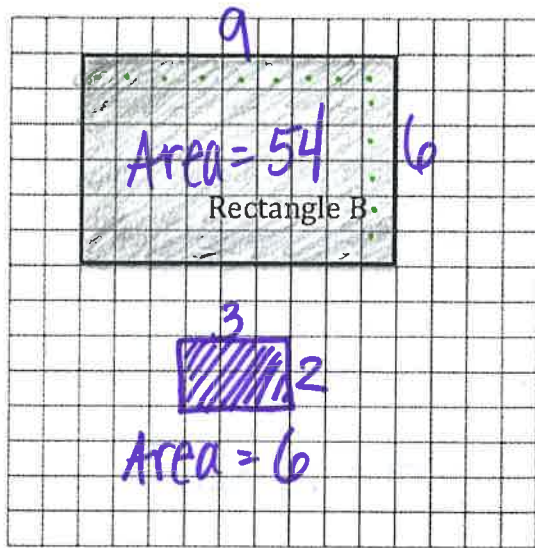


$$* \begin{array}{|c|} \hline SF \\ \hline \frac{1}{2} \\ \hline \end{array} =$$

$$* \left(\frac{1}{2}\right)^2 =$$

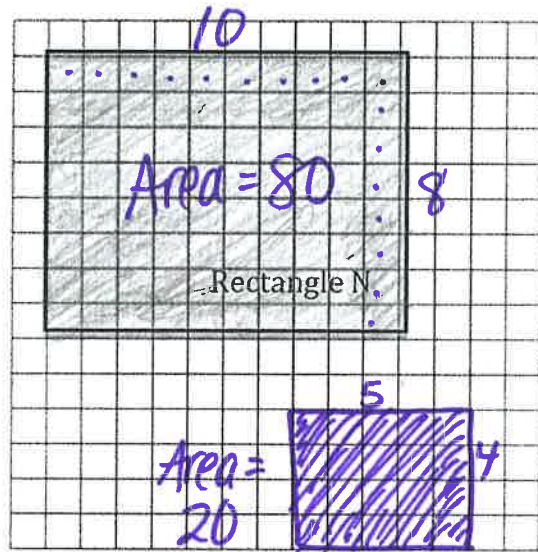


5. Rectangle A has an area of 6 square units. James drew a scaled version of Rectangle A and called it Rectangle B. What scale factor did James use to go from Rectangle A to Rectangle B?



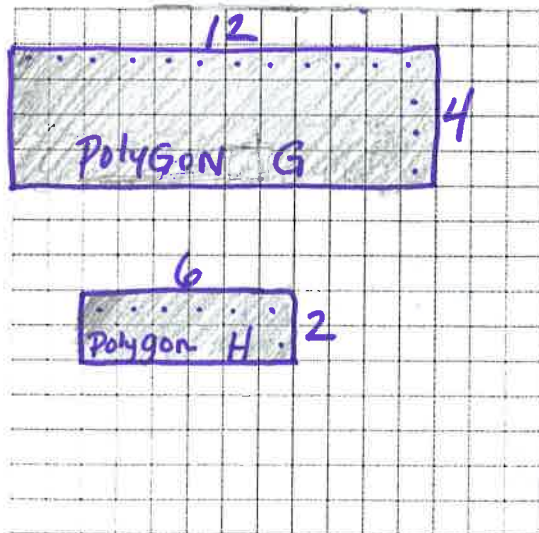
SF = 3

6. Rectangle M has an area of 20 square units. Ted drew a scaled version of Rectangle M and labeled it Rectangle N. What scale factor did Ted use to go from Rectangle M to Rectangle N?



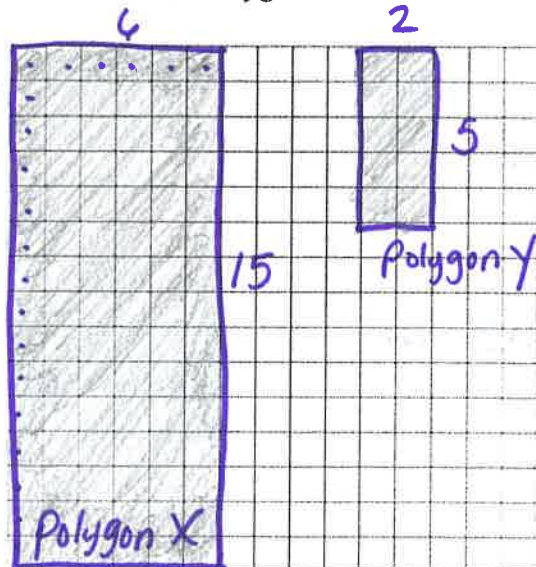
SF = 2

7. Polygon H is a scaled copy of Polygon G using a scale factor of $\frac{1}{2}$. Polygon H's area is what fraction of Polygon G's area?



$(\frac{1}{2})^2$

8. Polygon Y is a scaled copy of Polygon X using a scale factor of $\frac{1}{3}$. Polygon Y's area is what fraction of Polygon X's area?



Area = 90

Area = 10

$(\frac{1}{3})^2$

Fill in the missing information:

Original Dimensions	Original Perimeter	Original Area	Scale Factor SF	New Dimensions Original Dimensions X SF	New Perimeter Original Perimeter X SF	Scale Factor ²	New Area Original Area X SF ²
2 x 3	10 units	6 units ²	3	6 x 9	30 units	9	54 units ²
1 x 4	$1+1+4+4$ 10	4 units ²	6	6 * 24	60	36	144
3 * 5	16 units	15 units ²	$32 \div 16$ 2	6 * 10	32 units	4	60
3 x 9	$3+3+9+9$ 24	27 units ²	$\frac{1}{3}$	1 * 3	8 units	$\frac{1}{9}$	3
1 * 1	4 units	1 unit ²	6	6 * 6	24	36	36 units ²

Sample:



