



Puzzle Time

What Side Of A House Gets The Most Rain?

Circle the letter of each correct answer in the boxes below. The circled letters will spell out the answer to the riddle.

Complete the sentence or solve the problem.

1. A _____ is a transformation in which a figure is enlarged or reduced with respect to a fixed point C , called the *center*, and a scale factor k , which is the ratio of the lengths of the corresponding sides of the image and the preimage.
2. When the scale factor $k > 1$, a dilation is a(n) _____.
3. When $0 < k < 1$, a dilation is a(n) _____.
4. When a transformation changes the shape or size of a figure, the transformation is _____.
5. You want to reduce a picture that is 10 inches by 12 inches to a picture that is 2.5 inches by 3 inches. What is the scale factor k ?
6. A magnifying glass shows the image of an object that is 10 times the object's actual size. Determine the length of the image of the object if the actual length of the object is 8 millimeters.
7. A magnifying glass shows the image of an object that is 6 times the object's actual size. Determine the actual length of the object if the image is 120 millimeters.

Find the coordinates of the vertices after a dilation centered at the origin with scale factor $k = -\frac{1}{3}$.

8. $A(3, 6)$

9. $B(3, 3)$

10. $C(9, 0)$

R (-3, -6)	T 80 mm	K (-9, 0)	L 40	Q expansion	H dilation	E (-1, -1)	M alteration	A shrink	O reduction
G 8	I 4	U (-3, 0)	T 20 mm	P (1, 1)	S enlargement	I $\frac{1}{4}$	N rigid	D (-1, -2)	E nonrigid