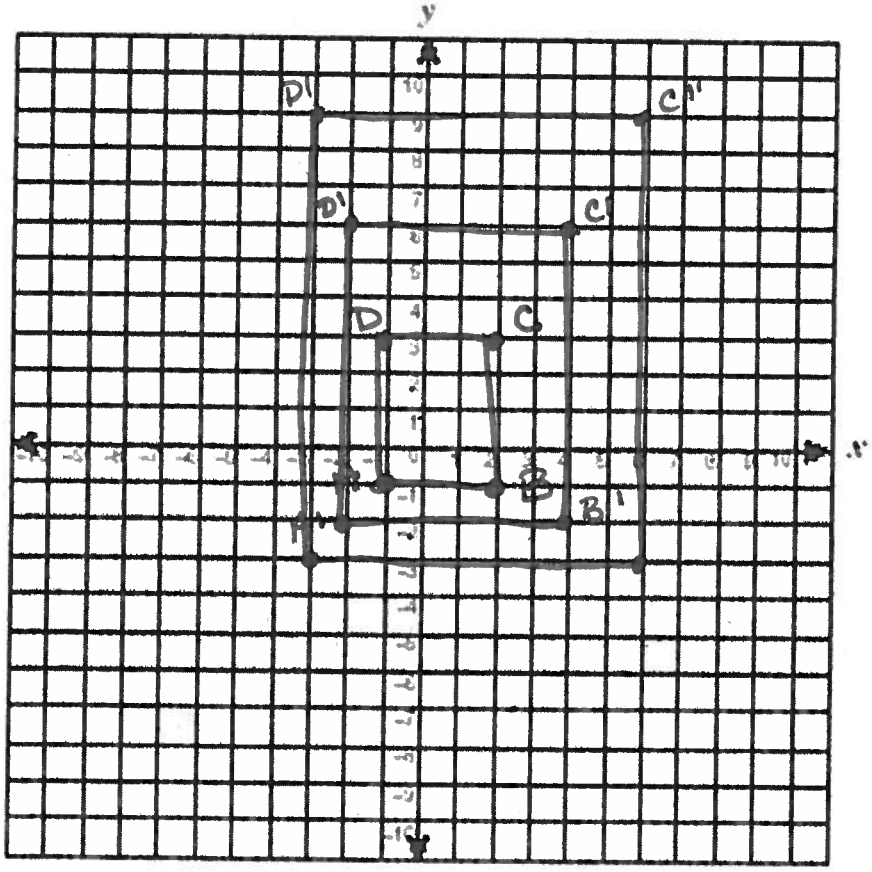
Dilations Key

Dilations make a shape larger or smaller. If the dilation is greater than one it will become larger. If it is smaller than one it will become smaller.

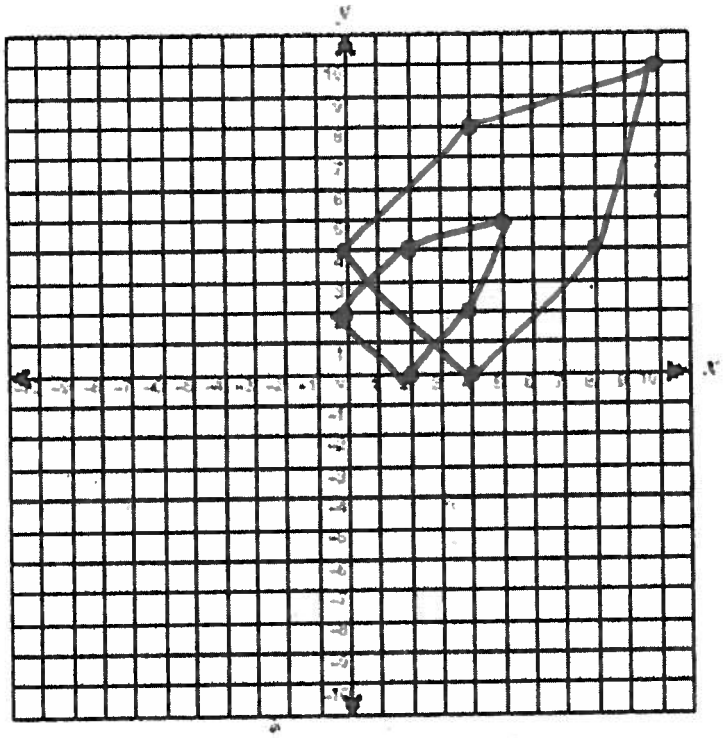
Here are your steps:

1. Write down the original points
2. Find the scale factor that you will be multiplying with
3. Multiply all numbers by the scale factor
4. Replot the points

Scale Factor	Coordinates				Length of AB	Length of AD
Original	A (-1,-1)	B (2,-1)	C (2,3)	D (-1,3)	3	4
2	(-2,-2)	(4,-2)	(4,6)	(-2,6)	6	8
3	(-3,-3)	(6,-3)	(6,9)	(-3,9)	9	12



Scale Factor	Coordinates				
Original	A (0,4)	B (4,0)	C (8,4)	D (10,10)	E (4,8)
1/2	(0,2)	(2,0)	(4,2)	(5,5)	(2,4)



What happened to the size of the figure after dilating it, using a scale factor of ½?

it is ½ the size

Summary – multiplying by more than one, the shape increases, less than one it decreases in size.

How would you describe a dilation?

increasing/decreasing the size of a shape by a scale factor

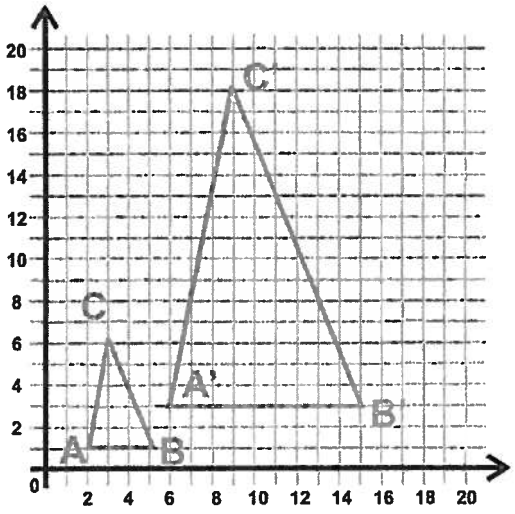
If you dilate a figure using a scale factor greater than one, what will happen?

it will become bigger.

How to Find the Scale Factor – REVERSE!!!

Steps: Pick ONE point and write down the prime and the original X VALUE ONLY!!!

The scale factor follows the formula $\frac{p' = p\ prime}{p = Original\ p}$

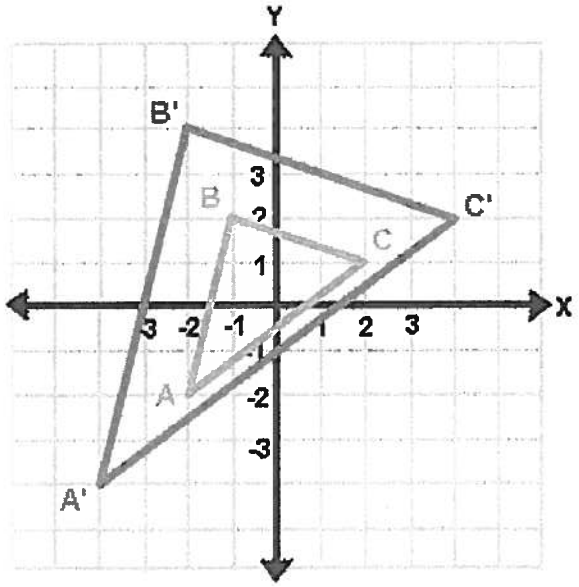


Find the scale

Point A

$\frac{P' = 6}{P \quad 2} = 3$

Shape became larger by the scale factor of 3!



Point C

Find the scale

$\frac{P'}{P} \quad \frac{4}{2} = 2$

larger by a scale factor of 2