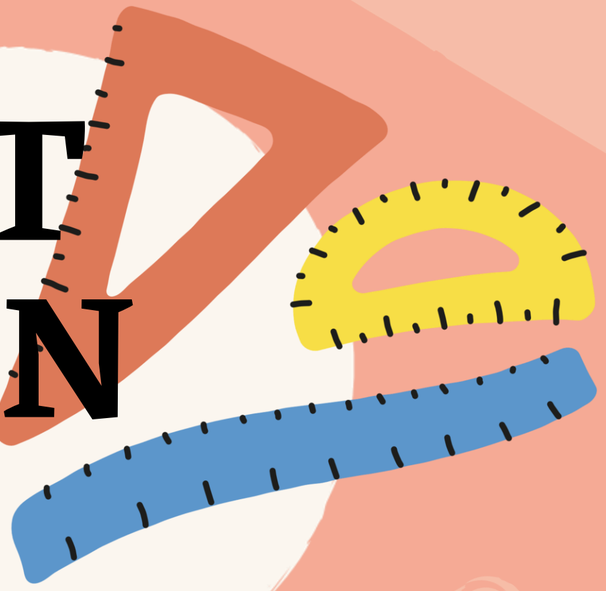
ENLARGEMENT AND REDUCTION



DATE:_____

INDICATOR: TO RECOGNIZE WHEN AN ENLARGEMENT OR REDUCTION IS APPLIED, A SIMILAR FIGURE TO THE ORIGINAL IS OBTAINED.

Fifth grade
Math

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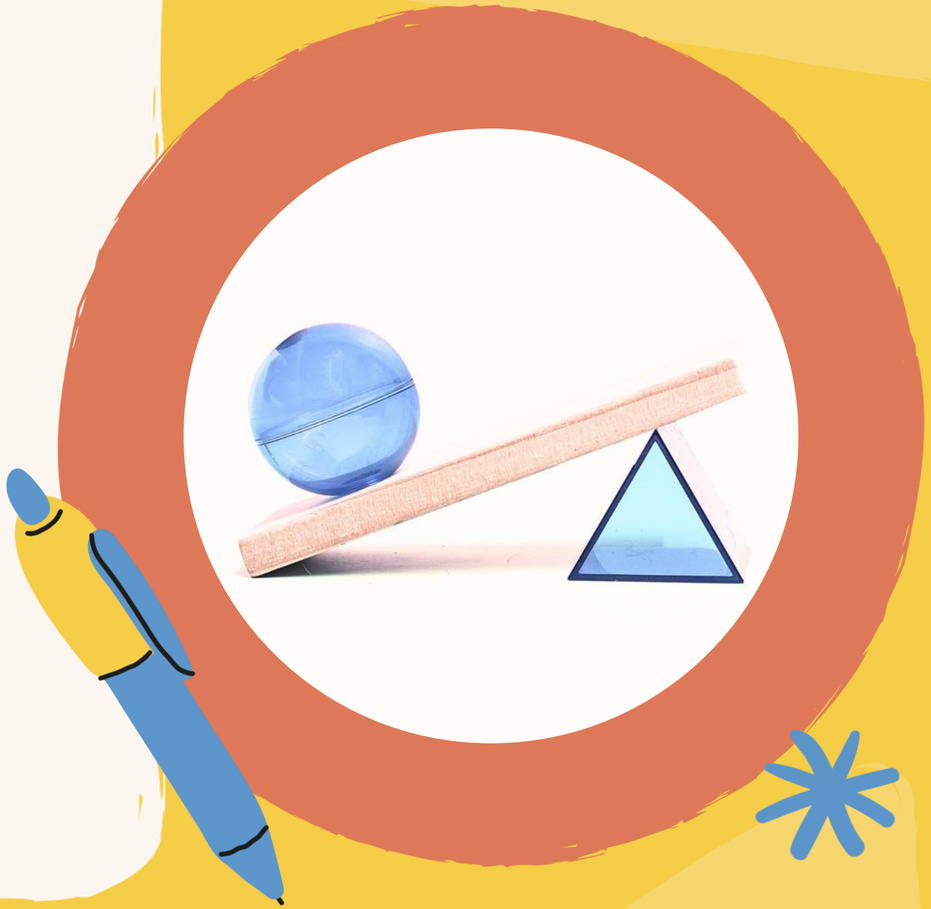
https://www.youtube.com/watch?v=57p5sjQ1VPU

Warm-up!

Let’s watch the next video



Activity

Let's make an enlargement

- Draw the first quadrant
  20 units x 20 units.

1) Graph a square of 4 units
A(2,2) B(2,6) C(6,6) D(6,2)
and enlarge it by a scale factor of 3. Write below the new ordered pairs.
A'(8,2) B'(**8**,**14**) C'(**20**,**14**) D'(**20**,**2**)

2) Graph a rectangle in the Cartesian plane of 9 units base and 6 units height

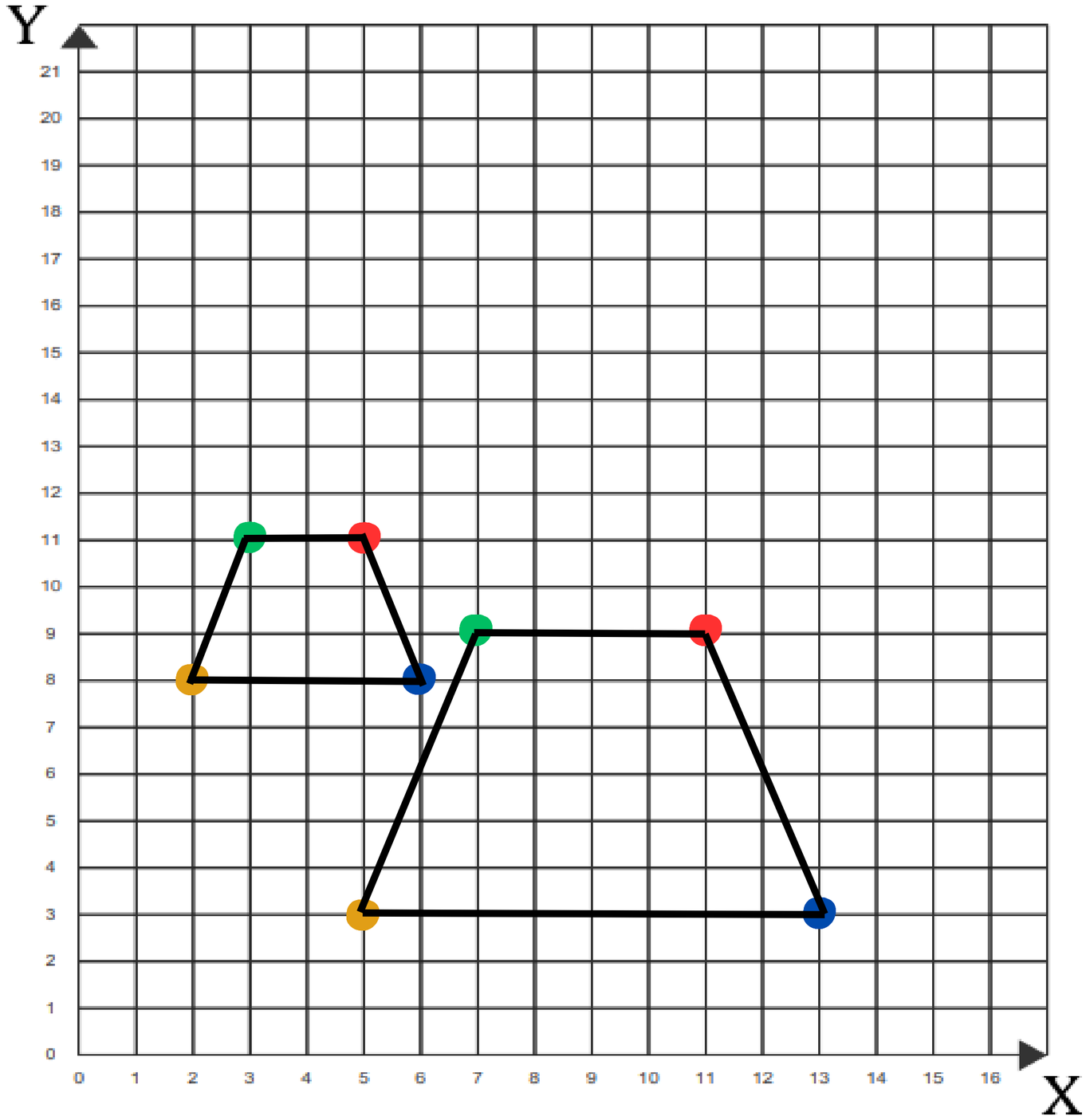
E(3,18) F(3,12) G(12,12) H(12,18)

and reduce it by a scale factor of 1/3. Write below the new ordered pairs.

E'(**1**,**6**) F'(**1**,**4**) G'(**4**,**4**) H'(**4**,**6**)

Activity

3) Graph a trapezium in the Cartesian plane with parallel sides of 8 and 4 units, 6 units height, and reduce it by a scale factor of 1/2. Write below the ordered pairs.

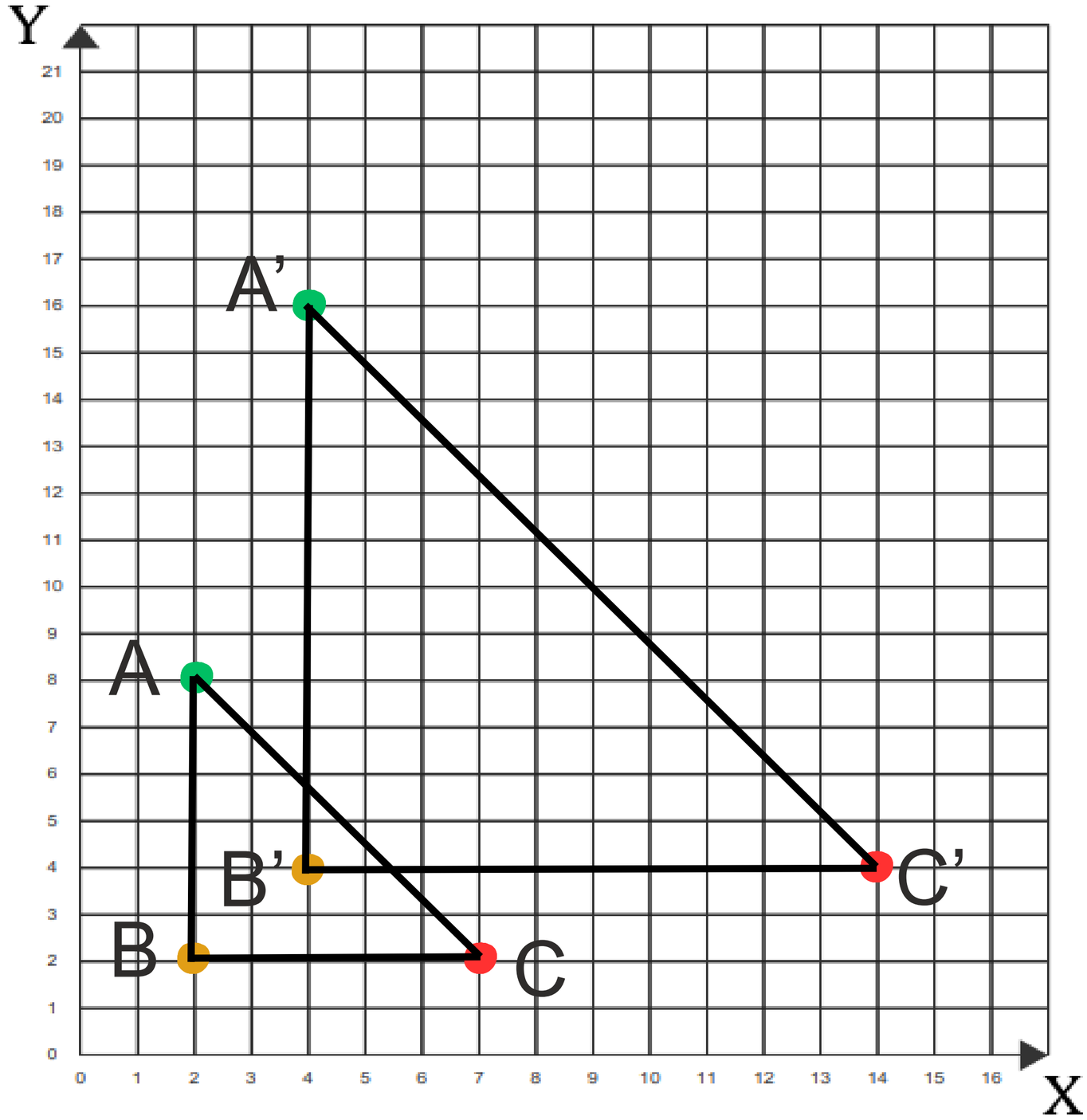


Activity

4) Graph a right triangle in the Cartesian plane of 5 units base and 6 units height and enlarge it by a scale factor of 2. Write below the ordered pairs.

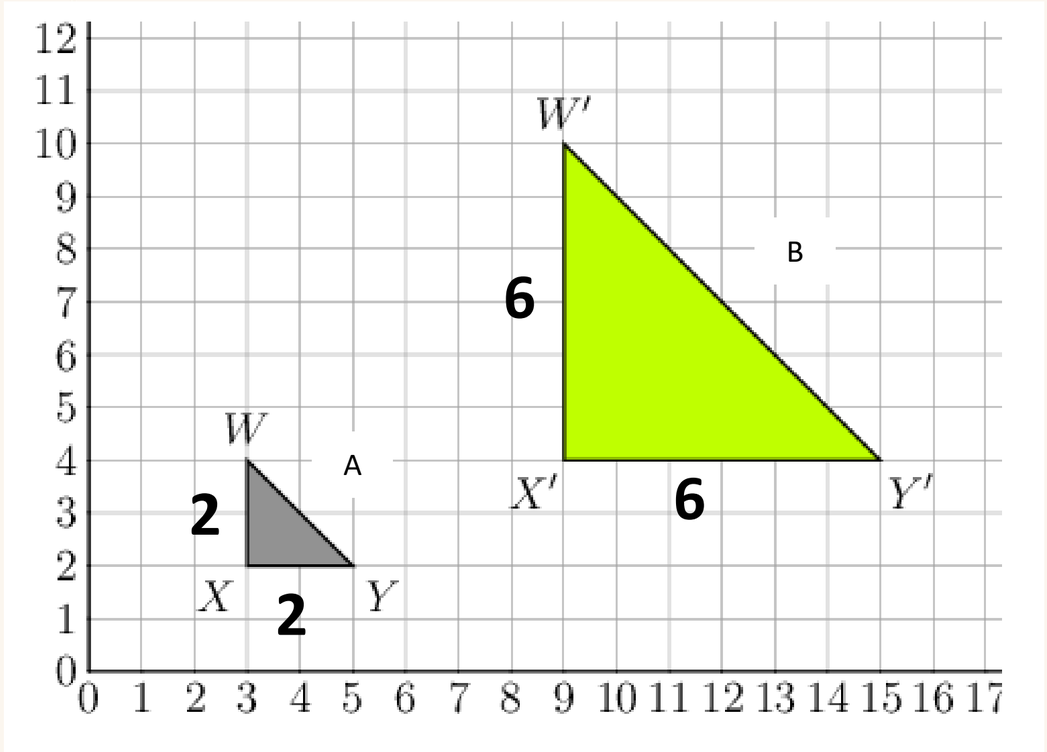
A=(2 , 2); B'=(2 ,8); C'=(7 ,2)

A'=(4 , 4); B'=(4 ,16); C'=(14 , 4)



WRAP-UP!

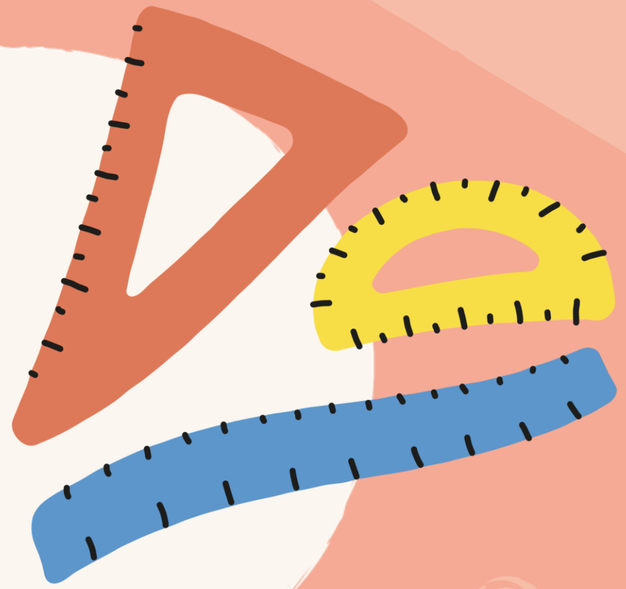
What is the scale factor of the enlargement of shape A to shape B?



2 x 3 = 6

Scale factor = 3

SYNTHESIS



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Synthesis

Congruent figures can be obtained through rigid transformations like translations , rotations , and reflections , maintaining size and shape.

Similar figures can be obtained through dilations, where shapes maintain proportional dimensions but differ in size like enlargements and reductions