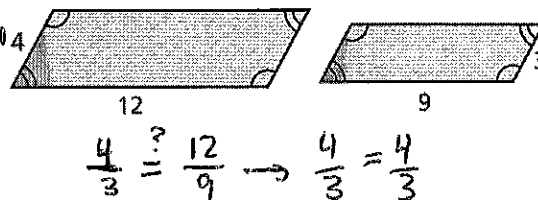


## 2.5 – Similar Figures

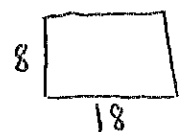
Complete each statement. Explain briefly why it is true.

- 1) Tell whether the two figures are similar. Explain your reasoning.

Yes they are similar because the ratios of corresponding sides are equal.



- 2) The rectangular traffic sign is 18 inches wide and 8 inches tall. The rectangular realtor sign is 27 inches wide and 10 inches tall. Are the signs similar? Explain.



$$\frac{8}{10} \stackrel{?}{=} \frac{18}{27}$$

No they are not similar because the corresponding sides are not congruent.



$$\frac{4}{5} \stackrel{?}{=} \frac{2}{3}$$

- 3) The given rectangle needs to be modified.

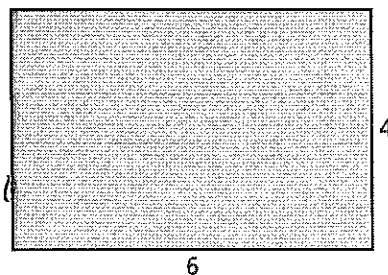
- a) From the original, each side is increased by 2. Is the new rectangle similar to the original? Explain.

$$\frac{4}{6} \stackrel{?}{=} \frac{6}{8}$$

$$\downarrow \quad \downarrow$$

$$\frac{2}{3} \neq \frac{3}{4}$$

No, corresponding sides ratio is not congruent.

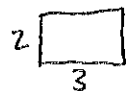


- b) From the original, each side is cut in half. Is the new rectangle similar to the original? Explain.

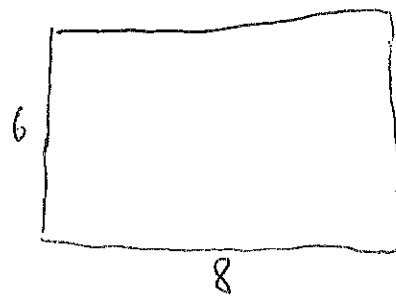


$$\frac{4}{2} \stackrel{?}{=} \frac{6}{3}$$

Yes, corresponding sides have the same ratio.



$$\frac{2}{1} = \frac{3}{1}$$



- 4) Which of the following card dimensions are similar rectangles?

☒ a) 2 in. by 5 in.

b) 3 in. by 6 in.

c) 1 in. by 3 in.

☒ d) 1 in. by 2.5 in.

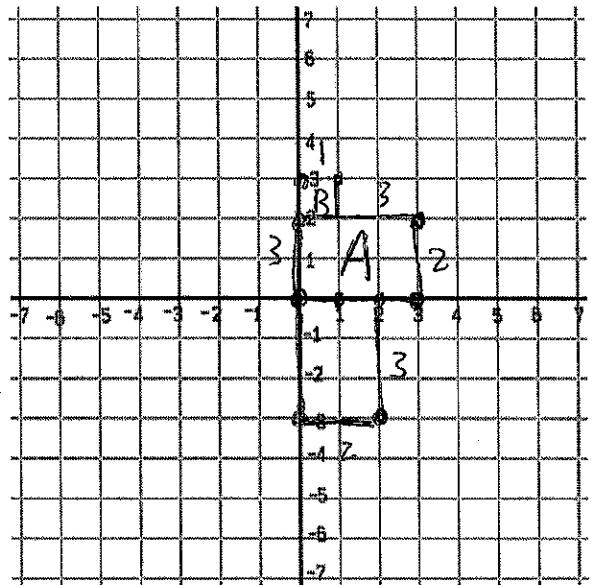
- 5) In a coordinate plane, draw the figures with the given vertices. Which figures are similar? Explain your reasoning.

Rectangle A: (0, 0), (3, 0), (3, 2), (0, 2)

Rectangle B: (0, 0), (1, 0), (1, 3), (0, 3)

Rectangle C: (0, 0), (2, 0), (2, -3), (0, -3)

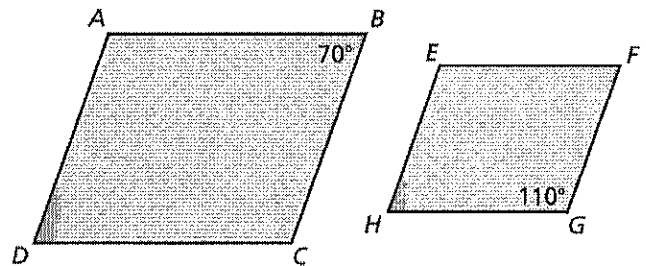
Rectangles A & C are similar because they have the same ratio for corr. sides



The two parallelograms are similar. Find the degree measure of each angle:

6)  $m\angle A = 110^\circ$  7)  $m\angle H = 70^\circ$

8)  $m\angle D = 70^\circ$  9)  $m\angle F = 70^\circ$



- 10) Is it possible for the following figures to be similar? Explain.

- a) A stop sign and a speed limit sign

No because they are different shapes

- b) A cell phone and an exam paper

Yes they have the same shape if they're corresponding side ratios are equal and

- c) A yield sign and a home plate

Yes if corr. side ratios are congruent

- d) A laptop and a swimming pool

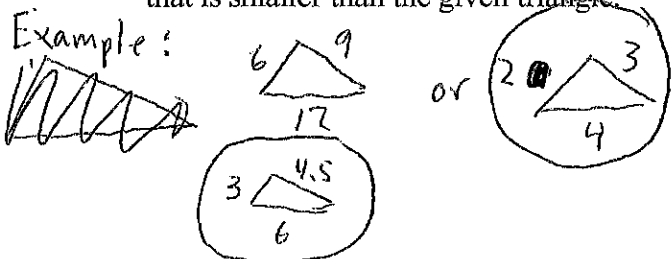
Yes if the swimming pool was rectangular and corr. side lengths are proportional

- 11) You have a triangle that has side lengths of 6, 9, and 12.

- a) Give the side lengths of a similar triangle that is smaller than the given triangle.

- b) Give the side lengths of a similar triangle that is larger than the given triangle.

Example:



Example:

