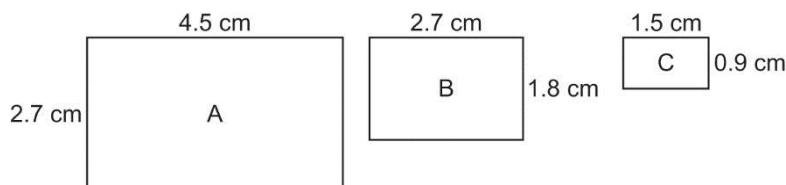


### 7.3 Similar Polygons – Worksheet

1. Which rectangles are similar? Give reasons for your answer.



Rec. A and Rec. B

$$\frac{4.5}{2.7} = \frac{2.7}{1.8}$$

$1.\bar{6} \neq 1.5$  .. not similar

Rec. A and Rec. C

$$\frac{4.5}{1.5} = \frac{2.7}{0.9}$$

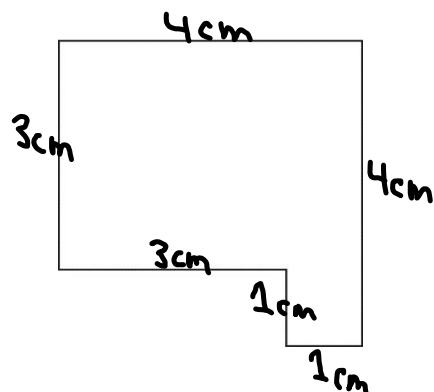
$3 = 3$  ✓ Rectangle A and C are similar.

Rec. B and Rec. C

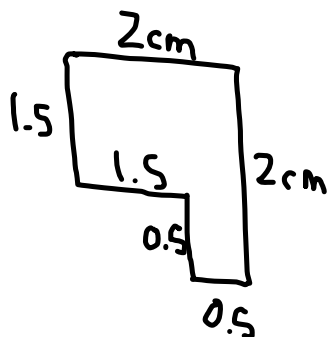
$$\frac{2.7}{1.5} = \frac{1.8}{0.9}$$

$1.8 \neq 2$  ... not similar

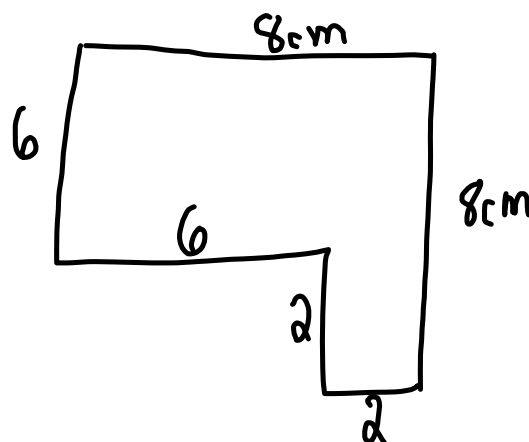
2. For the given polygon draw a similar larger polygon and a similar smaller polygon. Write the scale factor for each diagram.



Reduction with S.F. = 0.5



Enlargement with S.F. = 2



\* you need to use a ruler and protractor

3. These polygons are similar.  
Determine each length.

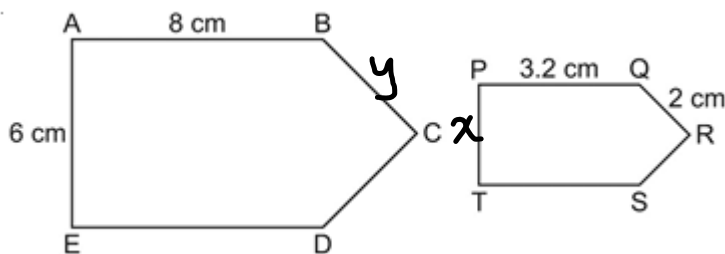
- a) PT  
b) BC

$$a) \frac{PT}{AE} = \frac{PQ}{AB}$$

$$\frac{x}{6} = \frac{3.2}{8}$$

$$\frac{8x}{8} = \frac{19.2}{8}$$

$$\boxed{x = 2.4}$$



$$b) \frac{QR}{BC} = \frac{PQ}{AB}$$

$$\frac{2}{y} = \frac{3.2}{8}$$

$$\frac{3.2y}{3.2} = \frac{16}{3.2}$$

$$\boxed{y = 5}$$

4. Which statements are true? Justify your answers.

- a) All regular octagons are similar.

True Since all angles are the same and corresponding side length are proportional

- b) All quadrilaterals are similar.

False b/c angles don't always equal and c. side lengths not always proportional

- c) All circles are similar.

True.

- d) All pentagons are similar.

False.