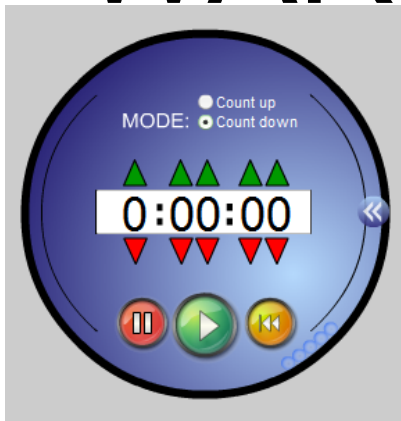


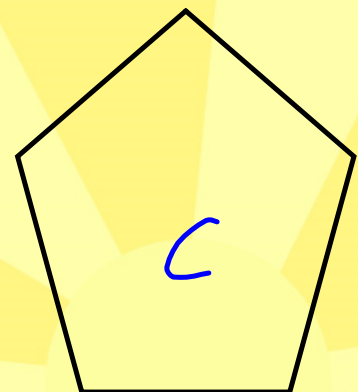
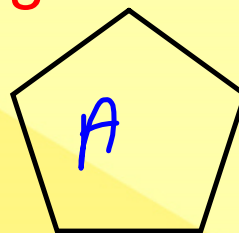
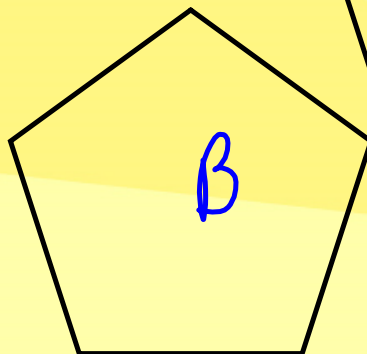
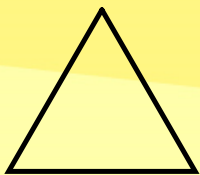
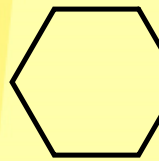
WARM-UP QUIZ



SECTION 7.3

SIMILAR POLYGONS

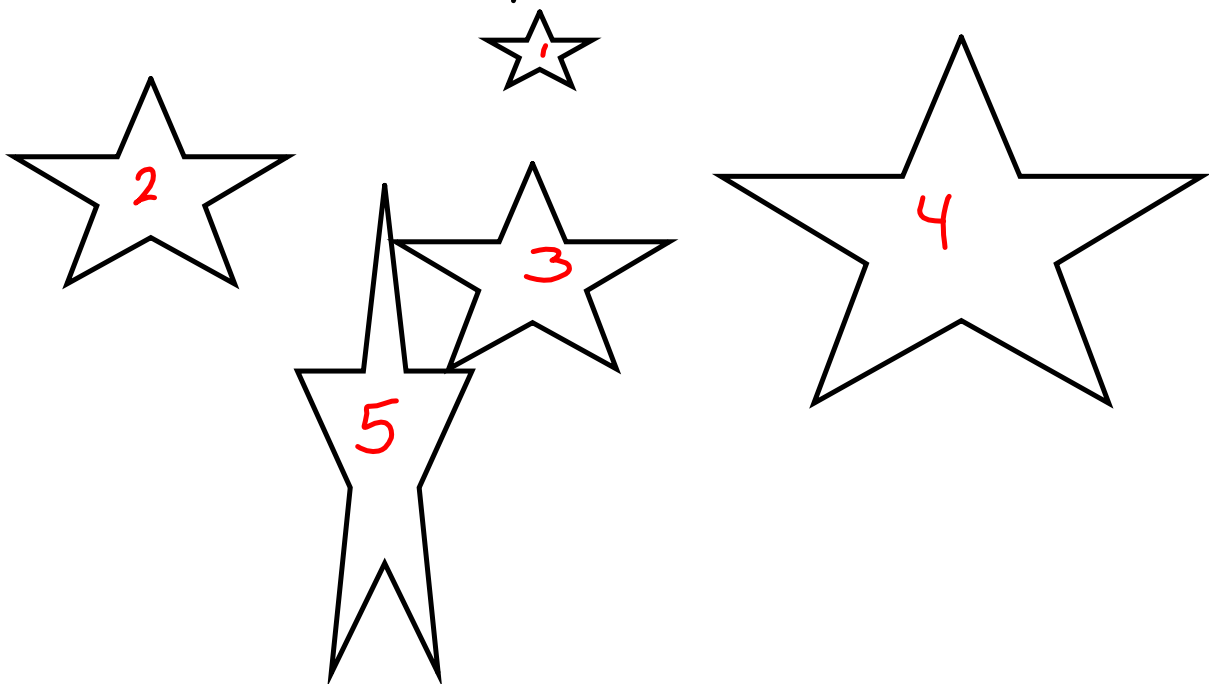
Polygon-is a closed figure made up of line segments.

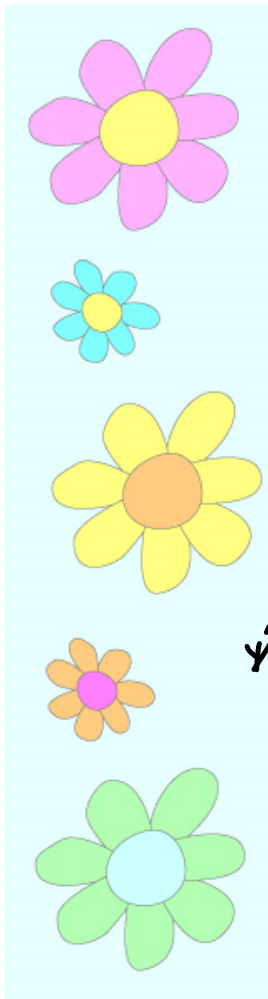


When one polygon is an enlargement or a reduction of another polygon, we say the polygons are **similar**.

Similar polygons have:

1. the same shape, matching angles to be equal
2. but not necessarily the same size.





Check Understanding

1. A bunny is 20 cm in a diagram and you want to enlarge the picture by a scale factor of 5.5. What will the size of the bunny be?

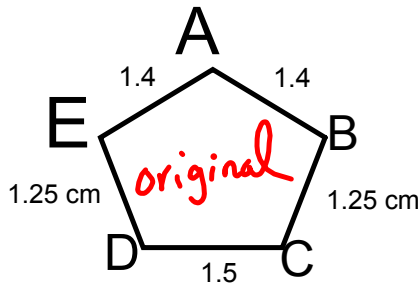
$$\begin{aligned} \text{New size} &= \text{S.F} \times \text{original} \\ &= 5.5 \times 20 \\ &= 110 \text{ cm} \end{aligned}$$

2. Solve

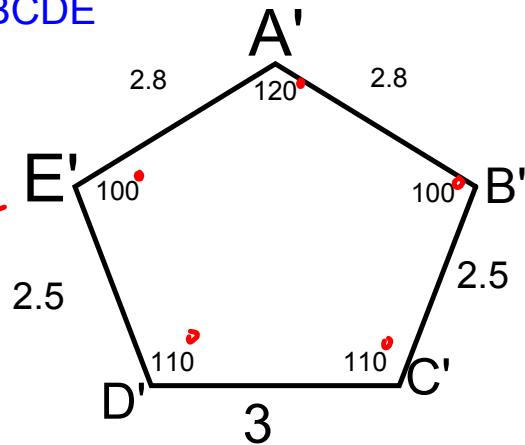
$$\cancel{3} \times \cancel{3} = \frac{15 \times 3}{7.2}$$

$$\begin{aligned} x &= \frac{45}{7.2} \\ x &= 6.25 \end{aligned}$$

$$\frac{6.25}{3} = \frac{15}{7.2}$$



Pentagon ABCDE is similar to A'B'C'D'E'



matching

List the corresponding sides

AB = 1.4 A'B' = 2.8

BC = 1.25 B'C' = 2.5

CD = 1.5 C'D' = 3

DE = 1.25 D'E' = 2.5

EA = 1.4 E'A' = 2.8

Ratio for corresponding sides

$$\frac{A'B'}{AB} = \frac{2.8}{1.4} = 2$$

$$\frac{B'C'}{BC} = \frac{2.5}{1.25} = 2$$

$$\frac{C'D'}{CD} = \frac{3}{1.5} = 2$$

$$\frac{D'E'}{DE} = \frac{2.5}{1.25} = 2$$

$$\frac{E'A'}{EA} = \frac{2.8}{1.4} = 2$$

List the corresponding angles

$$\angle A = \angle A'$$

$$\angle B = \angle B'$$

$$\angle C = \angle C'$$

$$\angle D = \angle D'$$

$$\angle E = \angle E'$$

Similarity statement

Pentagon ABCDE ~ Pentagon A'B'C'D'E'

Pentagon EABCD ~ Pentagon E'A'B'C'D'