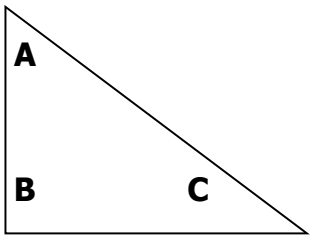
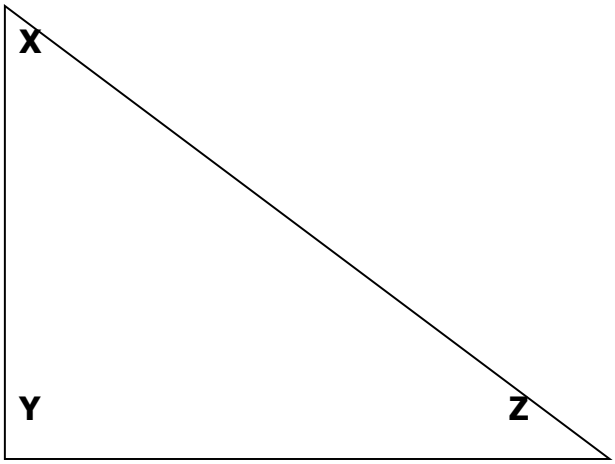
NAME KEY

Similar Figures

Triangle ABC



Triangle XYZ



Record the lengths of each side length below (in centimeters)…

Triangle ABC		**Triangle XYZ**
AB =	3cm	XY = 6cm
BC =	4cm	YZ = 8cm
CA =	5cm	ZX = 10cm

What do you notice about the corresponding side lengths of ΔABC and ΔXYZ?
The corresponding sides from ΔABC to ΔXYZ are 2 times as big.

Scale Factor: The scale factor is comparing the new shape to the original.
Therefore the scale factor is $S.F. = \frac{6}{3} = 2$

Similar Figures:

- ✓ 1. Same Shape but NOT same size
- ✓ 2. Corresponding sides are proportional
- ✓ 3. Corresponding angles are congruent ($\angle s \; are \cong$)

For each of the following…

a. Tell whether each pair of polygons is similar.
b. Explain why or why not.
c. If they are similar, find the scale factor.

1.

✓ **1. Same Shape**

✓ **2. Corresponding sides are proportional**

$$\frac{4}{8} = \frac{6}{12}$$

$$48 = 48$$

✓ **3. Corresponding** $\angle s \text{ are} \cong$

✓ **4. Yes, they are similar**

✓ **Scale Factor is the new shape compared to the original.**

$$Scale\ Factor = \frac{New\ Shape}{Original\ Shape}$$

$$S.F. = \frac{4}{8} = \frac{1}{2}$$

2.

✓ **1. Same Shape**

× **2. Corresponding sides are NOT proportional**

$$\frac{3}{5} \neq \frac{4}{8}$$

$$24 \neq 20$$

3.

✓ **1. Same Shape**

✓ **2. Corresponding sides are proportional**

$$\frac{3}{9} = \frac{2\frac{2}{3}}{8} \qquad \frac{3}{9} = \frac{3\frac{2}{3}}{11} \qquad \frac{2\frac{2}{3}}{8} = \frac{3\frac{2}{3}}{11}$$

$$\frac{3}{9} = \frac{\frac{8}{3}}{8} \qquad \frac{3}{9} = \frac{\frac{11}{3}}{11} \qquad \frac{\frac{8}{3}}{8} = \frac{\frac{11}{3}}{11}$$

$$24 = 24 \qquad 33 = 33 \qquad \frac{88}{3} = \frac{88}{3}$$

✓ **3. Corresponding** $\angle s \text{ are} \cong$

✓ **4. Yes, they are similar**

✓ **Scale Factor is the new shape compared to the original.**

$$S.F. = \frac{3}{9} = \frac{1}{3}$$

4.

✓ **1. Same Shape**

✓ **2. Corresponding sides are proportional**

$$\frac{9}{6} = \frac{4}{2\frac{2}{3}}$$

$$\frac{9}{6} = \frac{4}{\frac{8}{3}}$$

$$24 = 24$$

✓ **3. Corresponding** $\angle s \text{ are} \cong$

✓ **4. Yes, they are similar**

$$S.F. = \frac{9}{6} = \frac{3}{2}$$

5.

✓ **1. Same Shape**

✓ **2. Corresponding sides are proportional**

$$\frac{4}{9} = \frac{4}{9}$$

$$36 = 36$$

✓ **3. Corresponding** $\angle s \text{ are} \cong$

✓ **4. Yes, they are similar**

$$S.F. = \frac{9}{4} = 2\frac{1}{4} = 2.25$$

6.

✓ **1. Same Shape**

× **2. Corresponding sides are NOT proportional**

$$\frac{8}{6} \neq \frac{3}{4}$$

$$32 \neq 18$$