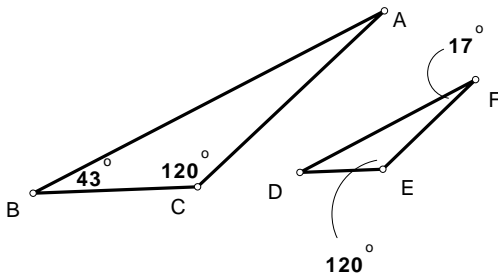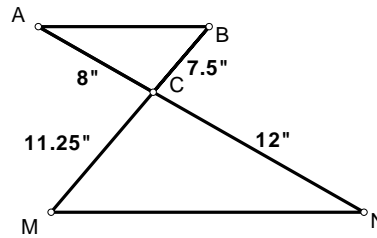# WORKSHEET – SIMILAR POLYGONS & TRIANGLES

Determine if each pair of triangles is similar. If they are similar, complete the similarity statement and state the method used to prove the similarity.
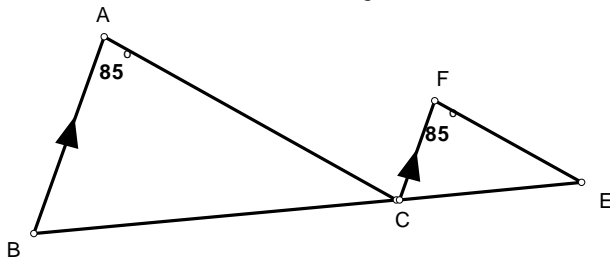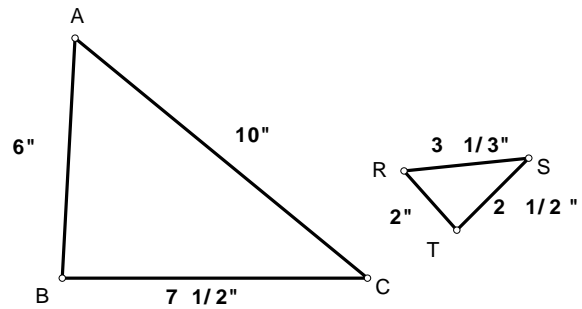
1)   △ABC ~ △_____ by _____

2)   △ABC ~ △_____ by _____

3)   △ABC ~ △_____ by _____

4)   △ABC ~ △_____ by _____

5)   △ABC ~ △_____ by _____
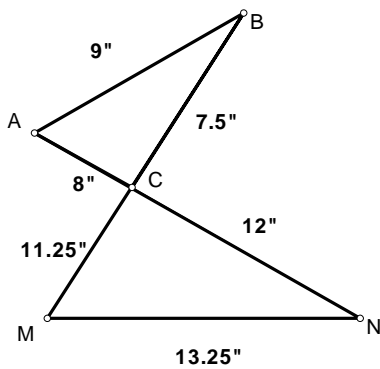
6)   △ABC ~ △_____ by _____
      △ABC ~ △_____ by _____
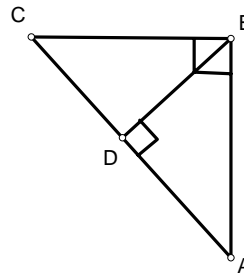
SOLVE EACH OF THE FOLLOWING. DRAW A DIAGRAM WHERE NEEDED.

7)   A Tower casts a shadwo of **64** feet. A 6-foot tall pole near the tower casts a shadow **8** feet long. How tall is the tower?

8)   A flag pole casts a shadow **3** meters long. A woman near the pole casts a shadow **0.75** meters long. The woman is **1.5** meters tall. How tall is the flag pole?
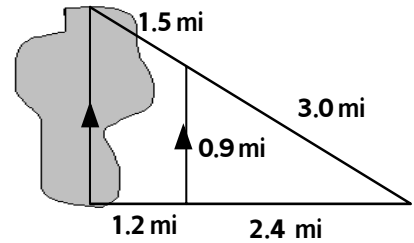
9) Use similar triangles to find the length of the lake.

1.5 mi

3.0 mi

0.9 mi

1.2 mi   2.4 mi

10) Most TV screens have similar shapes. The measure of the diagonal is used to give screen size. Suppose the dimensions of a 9-inch screen are **5 1/2** inches by **7 1/2** inches. Find the dimensions of an **18**-inch TV and a **35**-inch TV.

11) Suppose a person is **300** cm from a camera lens, and the film is **1.3** cm from the lens. If the person is **180** cm tall, how tall is his image on the film?
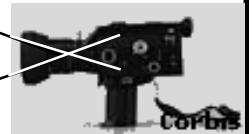
12) Suppose the film is **1.3** cm from the lens and can have an image no more than **4.5** cm tall. If the person is **180** cm tall, how far from the lens can he be for the largest possible full length image?

13) The ratio of the measures of two complementary angles is **7:3**. Find the measure of each angle.

14) The measures of two supplementary angles are in the ratio **14:31**. Find the measure of each angle.

15) A **78**cm segment is divided into three parts whose lengths are in the ratio **3:4:6**. Find the length of each part of the segment.

16) A quadrilateral has a perimeter of **92** cm and one side measures **16** cm. The lengths of the other three sides are in the ratio **5:6:8**. Find the lengths of the three missing sides.

17) $\triangle ABC \sim \triangle DEF$; m<A = _____; m<E = _____; x= _____;
y = _____; z = _____.

The perimeter of $\triangle$ ABC is **36**.

B

y

E

x

7   12

34°   82°

A   C D   14   F

z