# Similarity Worksheet 4 - Answers

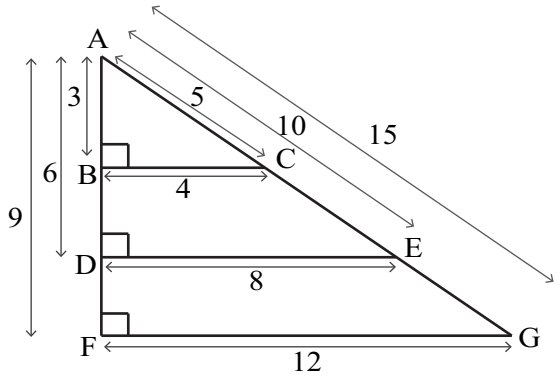


**Figure 1**

Refer to Figure 1 for questions 1 - 3.

1. Find and compare the ratios of the side opposite $\angle A$ to the hypotenuse.
   $\sin A = \frac{BC}{AC} = \frac{DE}{AE} = \frac{FG}{AG} = \frac{4}{5}$.

2. Find and compare the ratios of the side adjacent to $\angle A$ to the hypotenuse.
   $\cos A = \frac{AB}{AC} = \frac{AD}{AE} = \frac{AF}{AG} = \frac{3}{5}$.

3. Find and compare the ratios of the side opposite $\angle A$ to the angle's adjacent side.
   $\tan A = \frac{BC}{AC} = \frac{DE}{AE} = \frac{FG}{AG} = \frac{3}{4}$.

   For questions 4-5, use the following information. A right triangle has a hypotenuse of 17 and an angle of 76° opposite leg $a$.

4. What is the length of leg $a$?
   16.5

5. What is the length of the other leg, $b$?
   4.1

   For questions 6-7, use the following information. A right triangle has a hypotenuse of 43 and an angle of 61° opposite leg $f$.

6. What is the length of leg $f$?
   37.6

7. What is the length of the other leg, $g$?
   20.8

   For questions 8-9, use the following information. A right triangle has legs a and b and a hypotenuse $c$. The value of $b = 8$. The angle opposite a is 65°.

8. What is the length of leg $a$?
   17.2

9. What is the length of hypotenuse $c$?
   18.9

10. A right triangle has a hypotenuse of 16 and a side length opposite $\theta$ of 12. What is the value of $\theta$?
    48.6°