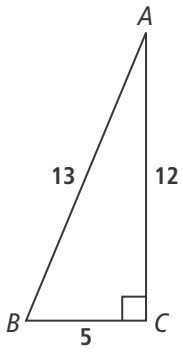
7-1 Additional Practice

Trigonometric Functions and Acute Angles

For Items 1 and 2, use $\triangle ABC$.



1. Write the six trigonometric ratios for $\angle A$.

$\sin A =$ _____ $\cos A =$ _____ $\tan A =$ _____

$\csc A =$ _____ $\sec A =$ _____ $\cot A =$ _____

2. Write the six trigonometric ratios for $\angle B$.

$\sin B =$ _____ $\cos B =$ _____ $\tan B =$ _____

$\csc B =$ _____ $\sec B =$ _____ $\cot B =$ _____

3. What are the trigonometric ratios of θ in a right triangle with the given value $\tan A = \frac{9}{40}$?

$\sin \theta =$ _____ $\cos \theta =$ _____ $\tan \theta =$ _____

$\csc \theta =$ _____ $\sec \theta =$ _____ $\cot \theta =$ _____

4. A kite has a string that is 300 ft long. The flying kite forms a 62° angle with a horizontal line running parallel to the ground. The bottom end of the string is 6 ft off the ground. How high is the kite? Round your answer to the nearest tenth.

Find each length.

5. the length of the hypotenuse of a 45°-45°-90° triangle with a leg of 12

6. the length of the longer leg of a 30°-60°-90° triangle with a hypotenuse of 14, when $\theta = 60°$

What is the cofunction identity for the given trigonometric ratio?

7. $\sin \theta =$ _____ **8.** $\sec \theta =$ _____ **9.** $\tan \theta =$ _____

10. Given the value of the hypotenuse c for a 30°-60°-90° triangle, write the equations to represent sides a and b in terms of c. Assume a is the shorter leg.

11. Given the value of the hypotenuse c for a 45°-45°-90° triangle, write the equations to represent sides a and b in terms of c.