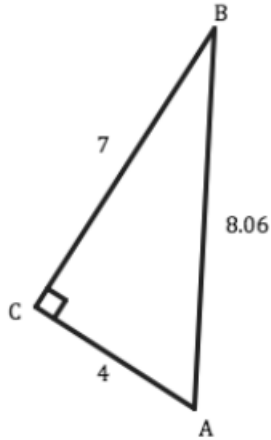


For each right triangle and the identified reference angle, create the desired trigonometric ratios. If any sides of the triangle are missing, find them before determining the ratio.

1.



a. $\cos(A) =$

d. $\cos(B) =$

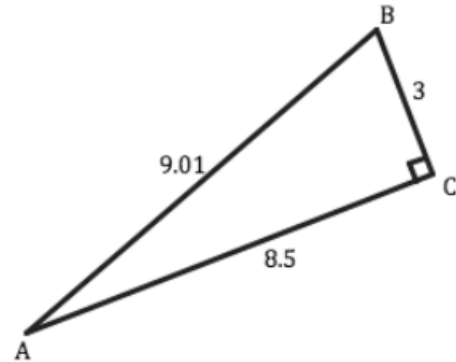
b. $\sin(A) =$

e. $\sin(B) =$

c. $\tan(A) =$

f. $\tan(B) =$

2.



a. $\cos(A) =$

d. $\cos(B) =$

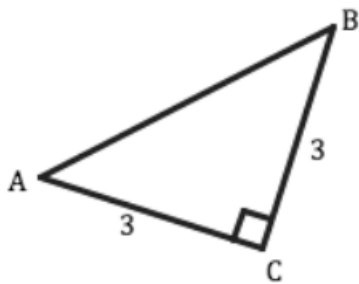
b. $\sin(A) =$

e. $\sin(B) =$

c. $\tan(A) =$

f. $\tan(B) =$

3.



a. $\cos(A) =$

d. $\cos(B) =$

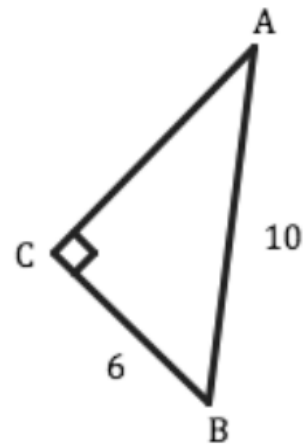
b. $\sin(A) =$

e. $\sin(B) =$

c. $\tan(A) =$

f. $\tan(B) =$

4.



a. $\cos(A) =$

d. $\cos(B) =$

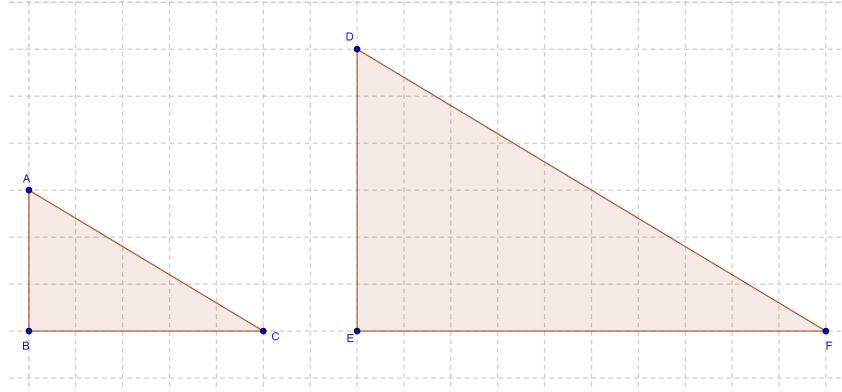
b. $\sin(A) =$

e. $\sin(B) =$

c. $\tan(A) =$

f. $\tan(B) =$

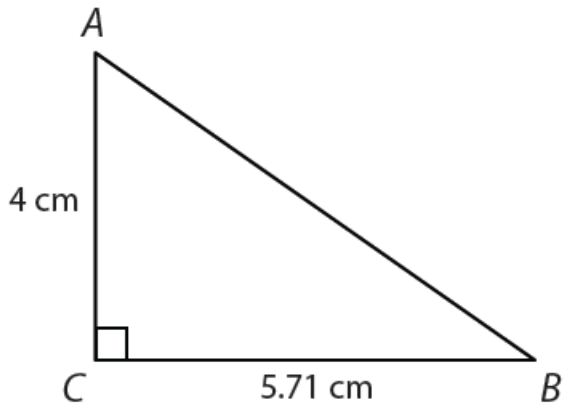
5. Find the three most commonly used trigonometric ratios for both of the acute angles in both of the right triangles below. What can you conclude about the trigonometric ratios in similar triangles?



Triangle ABC		Triangle DEF	
sin A =	sin B =	sin A =	sin B =
cos A =	cos B =	cos A =	cos B =
tan A =	tan B =	tan A =	tan B =

Conclusion:

6. Use $\triangle ABC$ to fill in the table below. Round to the nearest thousandth.



$\angle A$		$\angle B$	
sin A =	csc A =	sin B =	csc B =
cos A =	sec A =	cos B =	sec B =
tan A =	cot A =	tan B =	cot B =

7. Draw and label a right triangle that represents the relationship, then find the missing other two trig ratios

a. $\cos \theta = \frac{9}{13}$

$\sin \theta =$

$\tan \theta =$

b. $\tan \theta = \frac{7}{24}$

$\sin \theta =$

$\cos \theta =$

8. Use a calculator to find each value. Make sure your calculator is in degree mode.

a. $\sin (30^\circ)$

b. $\cos (60^\circ)$

c. $\sin (25^\circ)$

d. $\cos (65^\circ)$

e. $\sin (37^\circ)$

f. $\cos (53^\circ)$

9. Explain why (a) and (b), (c) and (d), and (e) and (f) in #8 are the same.

10. Martha locates a very tall oak tree. She measures that the tree's shadow is 45 feet long. Martha has a shadow that is 11.5 feet long. She is 5.75 feet tall. How tall is the oak tree? Also, what is the tangent of $\angle A$?

