

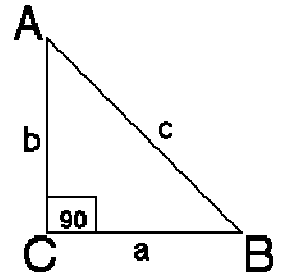
Use the right triangle below to answer questions 1 – 6.

1) If  $b = 8$  and  $c = 12$ , find  $\cos A$

2) If  $a = 4$  and  $c = 9$ , find  $b$ .

3) If  $a = 6$  and  $c = 7$ , find  $\sin B$ .

4) If  $m\angle A = 61^\circ$  and  $b = 16$ , find  $a$ .



5) If  $m\angle A = 19^\circ$  and  $c = 8.2$ , find  $b$ .

6) If  $a = 2.1$  and  $b = 3.9$ ,

a) find  $m\angle A$ .

b) find  $m\angle B$ .

Find the values of the following.

7)  $\sin 15.9^\circ$

8)  $\tan 22.7^\circ$

9)  $\cos 21^\circ$

10)  $\csc 25^\circ$

11)  $\cot 83^\circ$

Solve for  $x$ :

12)  $\cos 37^\circ = \frac{x}{8}$

13)  $\sin 61^\circ = \frac{5.9}{x}$

14)  $\sec 53^\circ = \frac{11}{x}$

15) Given the triangle to the right, find the values of the following.

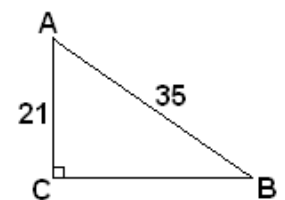
a)  $AB = \underline{\hspace{2cm}}$

b)  $\sin B$

c)  $\cos B$

d)  $\tan B$

e)  $\cot B$



f)  $\csc B$

g)  $\sec B$

h)  $m\angle B$

i)  $m\angle A$

Find the acute angle measure that satisfies the following. Round to the nearest **tenth** of a degree.

16)  $\sin A = 0.7556$

17)  $\cos A = 0.8735$

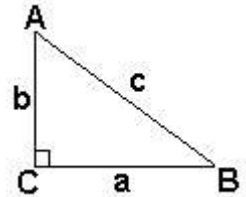
18)  $\cot A = 9.125$

19) Given a “standard” right triangle where side  $a = 6$  and  $m\angle A = 25^\circ$ , find the following:

a)  $m\angle B =$  \_\_\_\_\_

b) side  $b \approx$  \_\_\_\_\_

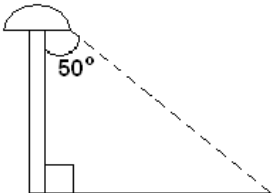
c) side  $c \approx$  \_\_\_\_\_



20) Convert  $53^\circ 12' 40''$  to decimal notation.

21) Convert  $61.^\circ$  to degrees, minutes, and seconds.

22) A lamp on a level floor beams light as shown. If the lamp is 4 feet tall and beams the light downwards at an angle of  $50^\circ$ , how far from the base of the lamp does the light shine on the floor?



23) An observer on the ground watching the launching of the space shuttle is 7 miles away from the shuttle. He loses sight of the shuttle when it is 13,200 feet above Earth. What is the angle of elevation from the observer to the shuttle at the time he loses sight of the shuttle? (1 mile = 5280 feet)