

1. Draw a picture to represent the right triangle, then find the missing values. Round to two decimal places.

a) $a = 12$ in. , $B = 42^\circ$

b) $c = 23$ cm. , $A = 24^\circ$

2. Convert the following degrees to radians and the radians to degrees.

a) 72°

b) $\frac{4\pi}{5}$

c) 105°

d) $\frac{8\pi}{9}$

e) -435°

f) $-\frac{34\pi}{15}$

3. Draw the following angles, find the reference angles, and find the value without the use of a table or calculator.

a) $\cos(210^\circ)$

b) $\sin(-300^\circ)$

c) $\tan(-45^\circ)$

d) $\csc(240^\circ)$

e) $\cot\left(\frac{\pi}{2}\right)$

f) $\sin\left(\frac{13\pi}{4}\right)$

g) $\sec\left(-\frac{7\pi}{3}\right)$

h) $\cos\left(\frac{17\pi}{6}\right)$

i) $\csc\left(-\frac{5\pi}{6}\right)$

4. Draw the following angles, find the reference angles, then find the value with the use of a table (no calculator)

a) $\tan(83^\circ)$

b) $\cos(341^\circ)$

c) $\csc(-123^\circ)$

d) $\sin(562^\circ)$

e) $\cot(-259^\circ)$

f) $\sec(-451^\circ)$

5. The $\cos\theta = \frac{5}{7}$, find the values of the 5 other trig functions.

6. Suzy is flying a kite that is 130 ft. off the ground. She is holding the string 4 ft above the ground with an angle of elevation of 37° . How long is the kite string? Picture?

7. Suzy's back window wiper arm is 2 ft long, only the outer most 13 in is actually blade. If the blade arm rotates through 120° , what is the area of the back window that gets cleaned? Picture?

8. Find the following without a calculator in both radians and degrees.

a) $\sin^{-1}\left(\frac{1}{2}\right)$

b) $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

c) $\arctan(-1)$

d) $\text{arc sec}(2)$

9. Find the following with a calculator in both radians and degrees.

a) $\tan^{-1}(.9476)$

b) $\arcsin\left(-\frac{5}{12}\right)$

c) $\cot^{-1}\left(\frac{8}{5}\right)$

d) $\arccos(-.8324)$