

Lesson 13.4 Worksheet

Name: _____

NO CALCULATOR, MAY USE UNIT CIRCLE

Evaluate the expression. Give your answer in both radians and degrees.

1.) $\sin^{-1} 1$

2.) $\tan^{-1} (-1)$

3.) $\cos^{-1} 0$

4.) $\cos^{-1} (-2)$

5.) $\sin^{-1} \frac{\sqrt{3}}{2}$

6.) $\sin^{-1} \frac{1}{2}$

7.) $\tan^{-1} \left(-\frac{\sqrt{3}}{3}\right)$

8.) $\cos^{-1} \left(-\frac{1}{2}\right)$

MAY USE CALCULATOR, MAY USE UNIT CIRCLE

Solve the equation for θ .

9.) $\cos \theta = -0.82$; $180^\circ < \theta < 270^\circ$

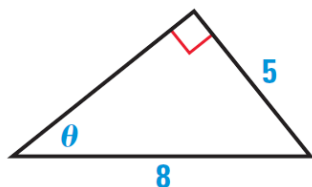
10.) $\sin \theta = -0.45$; $180^\circ < \theta < 270^\circ$

11.) $\tan \theta = -5.3$; $90^\circ < \theta < 180^\circ$

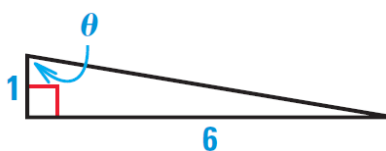
12.) $\cos \theta = 0.25$; $270^\circ < \theta < 360^\circ$

Find the measure of the angle θ .

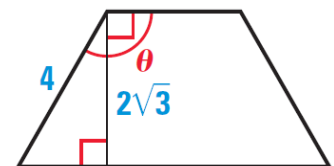
13.)



14.)



15.)



16.) A fire truck has a 100 foot ladder whose base is 10 feet above the ground. A firefighter extends a ladder toward a burning building to reach a window 90 above the ground. At what angle should the firefighter set the ladder. MAKE A PICTURE!

17.) An airplane is flying at an altitude of 31,000 feet when it begins its descent for landing. If the runway is 104 miles away, at what angle does the airplane descend? MAKE A PICTURE!

NO CALCULATOR, MAY USE UNIT CIRCLE

Evaluate function without using a calculator.

18.) $\sec(-315^\circ)$

19.) $\cot\left(-\frac{5\pi}{6}\right)$

20.) $\csc\left(-\frac{4\pi}{3}\right)$

Use a calculator to evaluate the trigonometric function. Round your answers to the nearest hundredth.

21.) $\sin 255^\circ$

22.) $\csc \frac{13\pi}{15}$

23.) $\cot\left(-\frac{8\pi}{5}\right)$

24.) A circular piece of cheese has a portion cut out as shown.

a.) What is the approximate arc length of the portion that is missing?

b.) What is the approximate area of the portion that is missing?

