

Secondary Math III  
Axis Angles / Unit Circle  
Assignment 6.4

Name \_\_\_\_\_  
Period \_\_\_\_\_

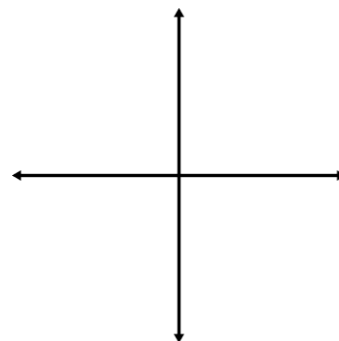
Find  $\sin$ ,  $\cos$ , and  $\tan$  for each given angle without using a calculator.

1.  $\theta = 180^\circ$

2.  $\theta = 450^\circ$

3.  $\theta = -\frac{3\pi}{2}$

4.  $\theta = 3\pi$



Find the following ratios without a calculator.

5.  $\sin 270^\circ$

6.  $\tan 0^\circ$

7.  $\cos(-90^\circ)$

8.  $\sec 270^\circ$

9.  $\cot 90^\circ$

10.  $\csc 0^\circ$

11.  $\sin \frac{\pi}{2}$

12.  $\tan(-\pi)$

13.  $\cos 7\pi$

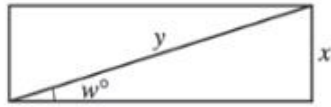
14.  $\sec \frac{3\pi}{2}$

15.  $\csc\left(-\frac{\pi}{2}\right)$

16.  $\cot 0$

**Practice ACT:**

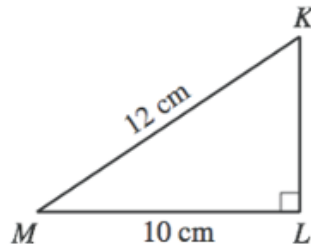
17. Which of the following trigonometric equations is valid for the side measurement  $x$  inches, diagonal measurement  $y$  inches, and angle measurement  $w^\circ$  in the rectangle shown below?



- A.  $\cos w^\circ = \frac{x}{y}$
- B.  $\cot w^\circ = \frac{x}{y}$
- C.  $\sec w^\circ = \frac{x}{y}$
- D.  $\sin w^\circ = \frac{x}{y}$
- E.  $\tan w^\circ = \frac{x}{y}$

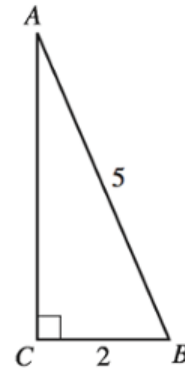
19. For right triangle  $\triangle KLM$  below, what is  $\sin \angle M$ ?

- F.  $\frac{10}{12}$
- G.  $\frac{12}{10}$
- H.  $\frac{\sqrt{44}}{10}$
- J.  $\frac{10}{\sqrt{44}}$
- K.  $\frac{\sqrt{44}}{12}$



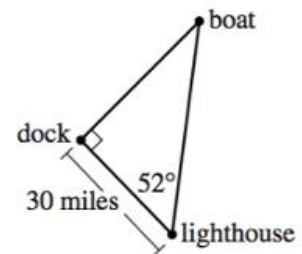
18. In the right triangle below, the measure of  $\angle C$  is  $90^\circ$ ,  $AB = 5$  units, and  $CB = 2$  units. What is  $\tan B$ ?

- F.  $\frac{\sqrt{21}}{2}$
- G.  $\frac{3}{2}$
- H.  $\frac{\sqrt{21}}{5}$
- J.  $\frac{3}{5}$
- K.  $\frac{2}{5}$



20. According to the measurements given in the figure below, which of the following expressions gives the distance, in miles, from the boat to the dock?

- F.  $30 \tan 52^\circ$
- G.  $30 \cos 52^\circ$
- H.  $30 \sin 52^\circ$
- J.  $\frac{30}{\cos 52^\circ}$
- K.  $\frac{30}{\sin 52^\circ}$



21. If  $\cos \theta = -\frac{3}{5}$  and  $\frac{\pi}{2} < \theta < \pi$ , then  $\tan \theta = ?$

- F.  $-\frac{5}{4}$
- G.  $-\frac{4}{3}$
- H.  $-\frac{3}{5}$
- J.  $\frac{3}{4}$
- K.  $\frac{4}{3}$

22. In the figure below,  $\triangle ABC$  is a right triangle with legs that measure  $x$  and  $3x$  inches, respectively. What is the length, in inches, of the hypotenuse?

- F.  $\sqrt{10}x$
- G.  $\sqrt{3}x$
- H.  $\sqrt{2}x$
- J.  $2x$
- K.  $4x$

