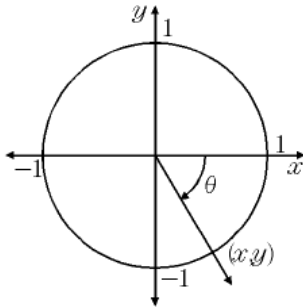


AP Calculus Trigonometry Review

Name: \_\_\_\_\_

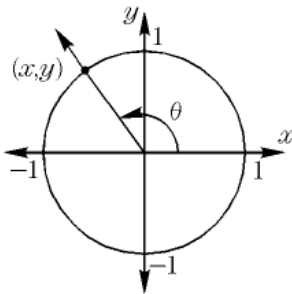
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1. In the accompanying diagram of a unit circle, the ordered pair  $(x, y)$  represents the point where the terminal side of  $\theta$  intersects the unit circle. If  $\theta = -\frac{\pi}{3}$ , what is the value of  $y$ ?



2. In the accompanying diagram of a unit circle, the ordered pair  $(x, y)$  represents the point where the terminal side of  $\theta$  intersects the unit circle.

If  $\theta = \frac{3\pi}{4}$ , what is the value of  $x$ ?



3. Use the half angle formula for the sine function to express  $\sin^2 2x$  as a trigonometric function to the first power.
4.  $\arcsin 0$  equals
5.  $\arccos(-\frac{1}{2})$  is equal to
6. Which of the following is a solution of  $\arcsin(-\frac{\sqrt{3}}{2})$ ?

A.  $-\frac{\pi}{3}$     B.  $\frac{\pi}{6}$     C.  $\frac{\pi}{2}$     D.  $\pi$

7. Which of the following is a solution of  $\cot^{-1}(-1)$ ?

A. 1    B.  $\frac{\pi}{4}$     C.  $\frac{\pi}{2}$     D.  $\frac{3\pi}{4}$

8. If  $x$  is a positive acute angle and  $\sin x = \frac{1}{2}$ , what is  $\sin 2x$ ?

9. The expression  $(\cot \theta)(\sec \theta)$  is equivalent to

A.  $\tan \theta$     B.  $\cos \theta$     C.  $\cot \theta$     D.  $\csc \theta$

10. The expression  $\frac{\tan \theta}{\sec \theta}$  is equivalent to

A.  $\sin \theta$     B.  $\frac{\sin \theta}{\cos^2 \theta}$

C.  $\frac{\cos^2 \theta}{\sin \theta}$     D.  $\cos \theta$

11. The expression  $\frac{1 - \sin^2 A}{2 \cos A}$  is equivalent to

A.  $\frac{\sin A}{2}$     B.  $\frac{\cos A}{2}$

C.  $\cos \frac{1}{2}A$     D.  $2 \cos A$

12. The expression  $\frac{1 + \cos 2x}{\sin 2x}$  is equivalent to

13. Find the number of degrees in the measure of the *smallest* positive angle that satisfies the equation  $2 \cos x + 1 = 0$ .

14. If  $y = \frac{1}{2} \sin 3x$ , the maximum value of  $y$  is: