

# Classroom Voting Questions: Precalculus

## Evaluating Trigonometric Functions

1.  $\sin 0 =$

- (a) 0
- (b) 1
- (c)  $-1$

2.  $\sin \frac{\pi}{6} =$

- (a) 0
- (b)  $\frac{1}{2}$
- (c)  $\frac{\sqrt{2}}{2}$
- (d)  $\frac{\sqrt{3}}{2}$
- (e) 1

3.  $\sin \frac{\pi}{2} =$

- (a) 0
- (b)  $\frac{1}{2}$
- (c)  $\frac{\sqrt{2}}{2}$
- (d)  $\frac{\sqrt{3}}{2}$
- (e) 1

4. Calculate  $\csc(14^\circ)$ .

- (a) 4.1336
- (b) 1.0095

- (c) 0.0714
- (d) 1.0306

5. In what quadrant is the terminal side of  $\theta$  if  $\sin \theta < 0$  and  $\tan \theta < 0$ ?

- (a) I
- (b) II
- (c) III
- (d) IV

6. Let  $\tan \theta = \frac{1}{2}$  and  $\sin \theta < 0$ . What is  $\cos \theta$ ?

- (a)  $\frac{\sqrt{5}}{5}$
- (b)  $-\frac{\sqrt{5}}{5}$
- (c)  $\frac{2\sqrt{5}}{5}$
- (d)  $\frac{-2\sqrt{5}}{5}$

7. The terminal side of  $\theta$  contains the point  $(-12, 5)$ . What is  $\sec \theta$ ?

- (a)  $-\frac{12}{13}$
- (b)  $-\frac{13}{12}$
- (c)  $\frac{5}{13}$
- (d)  $\frac{13}{5}$

8. Use the unit circle to find  $\cos(300^\circ)$ .

- (a)  $\frac{1}{2}$
- (b)  $-\frac{1}{2}$

- (c)  $\frac{\sqrt{3}}{2}$
- (d)  $-\frac{\sqrt{3}}{2}$

9. Use the unit circle to find  $\tan \frac{7\pi}{6}$ .

- (a)  $\sqrt{3}$
- (b)  $-\sqrt{3}$
- (c)  $\frac{\sqrt{3}}{3}$
- (d)  $-\frac{\sqrt{3}}{3}$

10. Use the unit circle to find the value of  $\sin \frac{2\pi}{3}$ .

- (a) 0
- (b)  $\frac{1}{2}$
- (c)  $\frac{\sqrt{2}}{2}$
- (d)  $\frac{\sqrt{3}}{2}$
- (e) 1

11. What is the reference angle for  $315^\circ$ ?

- (a)  $0^\circ$
- (b)  $30^\circ$
- (c)  $45^\circ$
- (d)  $60^\circ$
- (e)  $90^\circ$

12. Use the unit circle to find the value of  $\cos \frac{5\pi}{6}$ .

- (a)  $\frac{1}{2}$

- (b)  $-\frac{1}{2}$
- (c)  $\frac{\sqrt{2}}{2}$
- (d)  $-\frac{\sqrt{2}}{2}$
- (e)  $\frac{\sqrt{3}}{2}$
- (f)  $-\frac{\sqrt{3}}{2}$

13. Use trig identities to find  $\csc(20^\circ)$ .

- (a)  $\frac{1}{\sec(20^\circ)}$
- (b)  $\frac{1}{\cos(20^\circ)}$
- (c)  $\sec(70^\circ)$
- (d)  $\sin(70^\circ)$

14. Use trig identities to find  $\cot(50^\circ)$ .

- (a)  $\frac{\cos(50^\circ)}{\sin(50^\circ)}$
- (b)  $\tan(40^\circ)$
- (c)  $\frac{1}{\tan(50^\circ)}$
- (d) all of the above

15. One end of a straight wire is attached to the top of a pole. The other end of the wire is attached to the ground  $d$  feet from the base of the pole. The wire makes an angle  $\theta$  with the ground. Which expression gives the height of the pole?

- (a)  $\frac{d}{\tan \theta}$
- (b)  $d \tan \theta$
- (c)  $\frac{d}{\tan^{-1} \theta}$
- (d)  $d \tan^{-1} \theta$

16. Of the numbers below, which can be substituted for  $x$  to show that the equation  $\sec x = \sqrt{1 + \tan^2 x}$  is not an identity?

(a) 0

(b)  $\frac{\pi}{2}$

(c)  $\pi$