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 $\csc(14°)$.

   (a) 4.1336
   (b) 1.0095

(c) 0.0714

(d) 1.0306

5. In what quadrant is the terminal side of θ 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 θ 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 $\cos(300°)$.

(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 $315°$?

(a) $0°$

(b) $30°$

(c) $45°$

(d) $60°$

(e) $90°$

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 $\csc(20°)$.

(a) $\frac{1}{\sec(20°)}$

(b) $\frac{1}{\cos(20°)}$

(c) $\sec(70°)$

(d) $\sin(70°)$

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

(a) $\frac{\cos(50°)}{\sin(50°)}$

(b) $\tan(40°)$

(c) $\frac{1}{\tan(50°)}$

(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 θ 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) $\dfrac{\pi}{2}$

(c) π