Classroom Voting Questions: Precalculus

Angles

1. The angles \(-12^\circ\) and \(102^\circ\) are
   (a) complementary
   (b) supplementary
   (c) neither

2. The angles \(24^\circ\), \(36^\circ\), and \(30^\circ\) are
   (a) complementary
   (b) supplementary
   (c) neither

3. The angles \(30^\circ\) and \(150^\circ\) are
   (a) complementary
   (b) supplementary
   (c) neither

4. The angles \(2^\circ\) and \(88^\circ\) are
   (a) complementary
   (b) supplementary
   (c) neither

5. In what quadrant is the terminal side of \(215^\circ\)?
   (a) I
   (b) II
   (c) III
   (d) IV
6. In what quadrant is the terminal side of $-300^\circ$?

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

7. Which of the following angles is coterminal with a standard position angle of $215^\circ$?

(a) $45^\circ$  
(b) $145^\circ$  
(c) $-145^\circ$  
(d) $-215^\circ$

8. Find the smallest positive angle coterminal with $-980^\circ$.

(a) $260^\circ$  
(b) $100^\circ$  
(c) $60^\circ$  
(d) $20^\circ$

9. What is the radian measure of a $216^\circ$ angle?

(a) $108\pi$  
(b) $\frac{5\pi}{6}$  
(c) $\frac{6\pi}{5}$  
(d) $\frac{8\pi}{9}$

10. What is the degree measure of a $\frac{5\pi}{3}$ angle?

(a) $150^\circ$  
(b) $300^\circ$  
(c) $250^\circ$  
(d) $330^\circ$
11. In what quadrant is the terminal side of a standard position angle with radian measure $\frac{8\pi}{3}$ radians?

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

12. Which of the following angles is complementary to an angle of $\frac{\pi}{3}$ radians?

(a) $\frac{\pi}{6}$  
(b) $\frac{\pi}{4}$  
(c) $\frac{\pi}{3}$  
(d) $\frac{\pi}{2}$

13. You walk 200 meters around a circular track with a radius of 100 meters. Give an angle in radians that represents your final position relative to your starting position.

(a) 2 radians  
(b) 100 radians  
(c) $\frac{1}{2}$ radian  
(d) $2\pi$ radians

14. Find the length of the arc spanned by an angle of 3 radians on a circle of radius 2 feet.

(a) 2 radians  
(b) 3 radians  
(c) 6 radians  
(d) 1.5 radians

15. Consider a circle of radius $r$ having a central angle $\theta$ (measured in radians). If $s$ is the length of the arc of the circle corresponding to $\theta$, then $s = r\theta$.

(a) True, and I am very confident.
(b) True, but I am not very confident.
(c) False, but I am not very confident.
(d) False, and am very confident.

16. If the legs of a right triangle are 8 and 15, how long is the hypotenuse?

(a) $\sqrt{23}$
(b) 17
(c) 23
(d) 289