

Algebra and Calculus Worksheet 10

November 30, 2015

1. The point $P(x, \frac{2}{3})$ is on the unit circle in Quadrant II. Find its x -coordinate.
2. Find the terminal points on the unit circle determined by $t = -\frac{\pi}{6}$, $t = \frac{3\pi}{4}$, and $t = \frac{29\pi}{6}$.
3. Find the reference numbers for $t = -\frac{5\pi}{6}$, $t = -\frac{7\pi}{4}$, and $t = \frac{8\pi}{3}$.
4. What is the domain of $\cot(\theta)$?
5. If $\sin(\theta) = \frac{\sqrt{2}}{2}$, and θ is in Quadrant II, what is θ in degrees?
6. In which quadrant is tangent positive? What about the other trig functions? Why?
7. Evaluate $\sin(\frac{19\pi}{4})$ and $\tan(-\frac{\pi}{3})$.
8. If $\sin(\theta) = 0.8$, what is $\cos^2(\theta)$?
9. Find a positive and negative angle coterminal to $\frac{\pi}{3}$.
10. Find the length of an arc of a circle with radius 10 meters that subtends a central angle of 30 degrees.
11. Find the area of a sector of a circle with central angle 60 degrees if the radius of the circle is 3 meters.