Answer on Question #57981 – Math – Trigonometry

Question

Reference angle for 305° is ____°.

Solution

305° is in the 4th quadrant, so

$$x = 360° - 305° = 55°$$

Answer: 55°

Question

If the point p(-3/5, y) lies on the unit circle and P is in the second quadrant, what does y equal? If necessary, use the slash mark (/) for a fraction bar.

Solution

Because the point p(-3/5, y) lies on the unit circle, it follows that

$$\left(-\frac{3}{5}\right)^2 + y^2 = 1,$$

hence

$$y = \sqrt{1 - \left(\frac{3}{5}\right)^2},$$

$$y = \pm\frac{4}{5},$$

Given P is in the second quadrant, hence we take

$$y = \frac{4}{5}$$

Answer: y=4/5

Question

What are the coordinates of the terminal point determined by t = 20π /3

Solution

$$x = \cos\frac{20\pi}{3} = \cos\left(6\pi + \frac{2\pi}{3}\right) = \cos\frac{2\pi}{3} = -\frac{1}{2},$$

$$y = \sin\frac{20\pi}{3} = \sin\left(6\pi + \frac{2\pi}{3}\right) = \sin\frac{2\pi}{3} = \frac{\sqrt{3}}{2}.$$

Answer: B: (-1/2, √3/2).