

## 10350 Trigonometry Quiz

1. State the quadrant the following angles (in radians) are in and their reference angle.

1a.  $\frac{2\pi}{3}$       Quadrant: \_\_\_\_\_      Reference Angle: \_\_\_\_\_

1b.  $-\frac{5\pi}{6}$       Quadrant: \_\_\_\_\_      Reference Angle: \_\_\_\_\_

1c.  $\frac{7\pi}{4}$       Quadrant: \_\_\_\_\_      Reference Angle: \_\_\_\_\_

1d.  $\frac{13\pi}{6}$       Quadrant: \_\_\_\_\_      Reference Angle: \_\_\_\_\_

2. Convert  $240^\circ$  to radians.

3. Convert  $\frac{3}{5}\pi$  to degrees.

4. Explain using a suitable triangle why  $\sin\left(\frac{\pi}{4}\right) = \frac{1}{\sqrt{2}}$ .

5. Find the **exact value** of the following trigonometric function values. You may find your answers to Question 1 helpful.

5a.  $\sin\left(\frac{2\pi}{3}\right)$

5b.  $\cos\left(-\frac{5\pi}{6}\right)$

5c.  $\tan\left(\frac{7\pi}{4}\right)$

5d.  $\csc\left(\frac{13\pi}{6}\right)$

**6** Find all possible values of  $x$  for the given range:

**6a.**  $\sin(x) = 0.5$        $0 < x < 2\pi$

**6b.**  $\cos(x) = -0.5$        $-2\pi < x < 2\pi$