

1. Determine the *exact* values (i.e. no decimal approximations)

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

c. $\cos\left(\frac{2\pi}{3}\right)$

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

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

d. $\cos\left(\frac{7\pi}{6}\right)$

f. $\tan\left(-\frac{\pi}{4}\right)$

2. For each function, plot $y = f(x)$ and determine the exact values of x in the interval $[0, 2\pi]$ where $f(x) = 0$.

a. $f(x) = \sin(x) \cos(x)$

b. $f(x) = \sin(x)(2 \cos(x) - 1)$

3. Consider the graphs of $y = \sin(x)$ and $y = \cos(x)$ on the interval $[0, 2\pi]$

a. Where is $\sin(x)$ positive? Negative? Increasing? Decreasing?

b. Where is $\cos(x)$ positive? Negative? Increasing? Decreasing?