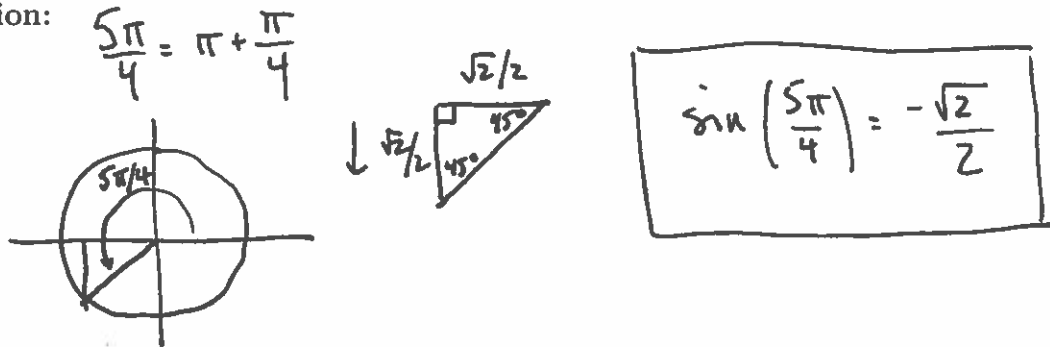


Quiz 4 Solutions, Math 103 - Precalculus

1. Evaluate each of the following, with a picture of the angle on the unit circle and any steps to your work:

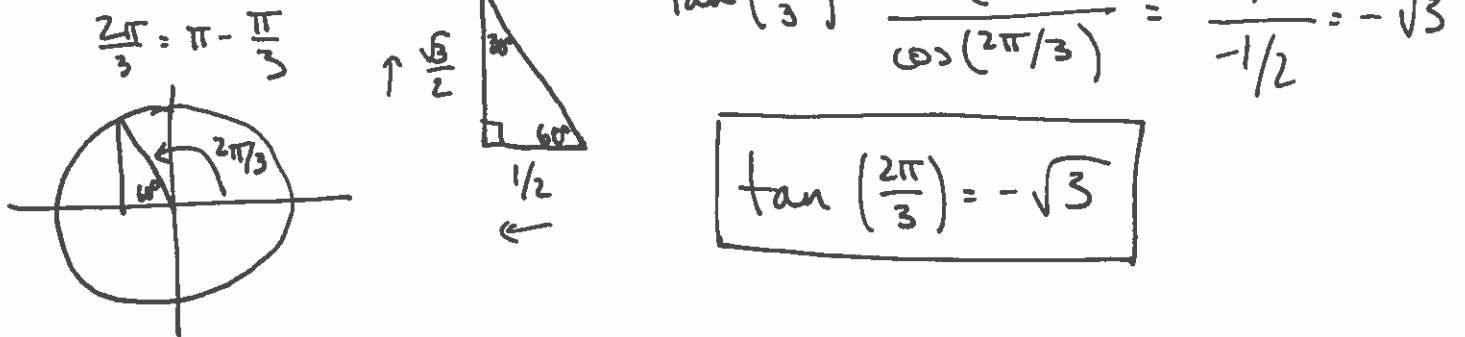
(a): $\sin(5\pi/4)$

Solution:



(b): $\tan(2\pi/3)$

Solution:



2. Write the following expression in terms of only $\sin(x)$ and/or $\cos(x)$ in simplified form, showing all of your steps:

$$\frac{\csc(x) \tan^2(x) \cot(x)}{\sec^2(x)}$$

Solution:

$$\frac{\csc(x) \tan^2(x) \cot(x)}{\sec^2(x)} = \frac{\frac{1}{\sin(x)} \cdot \frac{\sin^2(x)}{\cos^2(x)} \cdot \frac{\cos(x)}{\sin(x)}}{\frac{1}{\cos^2(x)}}$$

$$= \frac{1}{\sin(x)} \cdot \frac{\cancel{\sin^2(x)}}{\cancel{\cos^2(x)}} \cdot \frac{\cos(x)}{\sin(x)} \cdot \cancel{\cos^2(x)} = \boxed{\cos(x)}$$