Quiz 3
Due: 6 February 2024

> Answer the questions in the spaces provided. **Show all of your work and circle the answer you would like to have graded for each question.**

Name: _____

1. Justify whether each of the following statements are True or False:

   a.) $\sin(\theta - \frac{\pi}{2}) = -\cos(\theta)$ for any angle θ;

   b.) If α and β are complementary angles, then $\sin(\alpha) = \cos(\beta)$.

2. Without using a calculator, compute the exact value of

$$\frac{\cos(51°)}{\sin(39°)}.$$

3. Suppose $\cot(\theta) = \frac{8}{6}$. Find the exact value of $\cos(\theta)$.

4. Suppose an airplane flys directly above you at a height of 3,000 feet above the ground, and is descending at an angle of $30°$ with the horizon in order to reach a nearby runway. How many feet are you from the runway?