Math 190 Quiz 1: Friday September 23

The quiz is 10 minutes long and has two questions. No calculators or other aids are permitted. Show all of your work for full credit.

Questions:

1. Find all x in $[0, 2\pi)$ so that

$$\cos x = \frac{\sqrt{3}}{2}.$$

   Support your answer with the relevant part of the unit circle and the appropriate special triangle.

2. Consider the functions

$$f(x) = \begin{cases} 5x, & x \geq 2 \\ 3x, & x < 2 \end{cases}$$
$$g(x) = x^2 + 4.$$

   Find a formula for the composition $f(g(x))$.