Some of the big ideas for the semester

- Calculus is the language of change
- Approximation is a core tool as we develop calculus concepts
- You won't always know how to solve a problem immediately

  Jump in and TRY SOMETHING!
  You may fail, but aspire to fail spectacularly!

- Math is not a competitive sport

Let $f(x) = x^2 + 3x - 1$, $g(x) = x + 1$, and $k(x) = -x$

1. Evaluate the following:
   (a) $f(3)$, $f(-3)$, $f(\sqrt{2})$

   (b) $f(g(3))$, $g(f(3))$, $f(k(3))$, $k(f(3))$

   (c) $f(k(g(-2)))$, $g(f(k(-5)))$

2. Find formulas for each of the following:
   (a) $f(g(x))$

   (b) $g(f(x))$

   (c) $f(g(k(x)))$

   (d) $f(k(g(x)))$