1. Find the equation of the line parallel to the line $2x + 3y = 8$ that goes through the point $(-1, 4)$.

2. If $f(x) = x^2$ and $g(x) = ax + 2$, find a such that $(g \circ f)(2) = 1$

3. Suppose that $f(x) = \frac{x^4 - 16}{x^2 - 4}$.

   (a) For what values is f undefined?

   (b) Why is f not continuous at those points?

   (c) How can we define the function at those points in order to make a continuous function

4. Find the following limits:

   (a)
   $$\lim_{x \to 0} \frac{x^2 + 5x - 14}{x^2 + x - 2}$$

   (b)
   $$\lim_{x \to 2} \frac{x + 2}{x - 2}$$

   (c)
   $$\lim_{x \to 0} \frac{sin(2x)}{3x}$$

5. State the Squeeze Theorem.

6. Find the equation of the tangent line to the function $f(x) = x + \frac{1}{x}$ at the point $(1, 2)$.

7. Use the definition of the derivative to find $g'(t)$ when $g(t) = \sqrt{t}$