

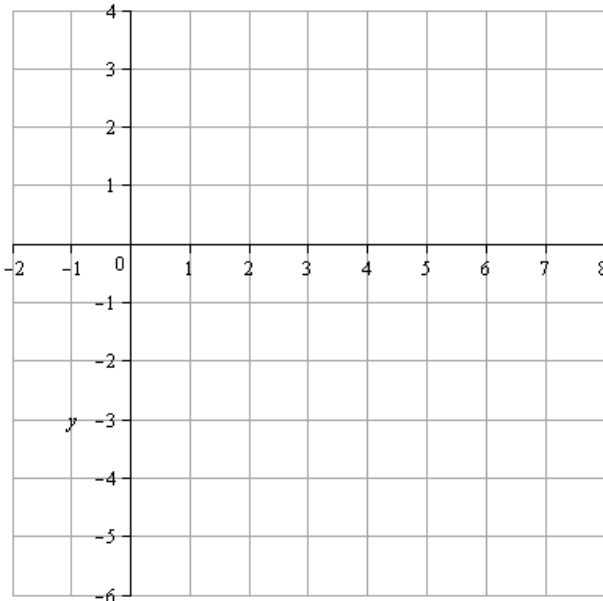
1. Let  $f(x) = 3x^2 - 5x + 1$ . Evaluate and simplify the following.

a.  $f(-2)$



b.  $f(x - 5)$

2. Sketch the graph of  $f(x) = \frac{2}{3}x - 4$ . Include any  $x$ - or  $y$ - intercepts, and if the intercepts are *all* you label on your graph, that's just fine with me! BETTER than fine!



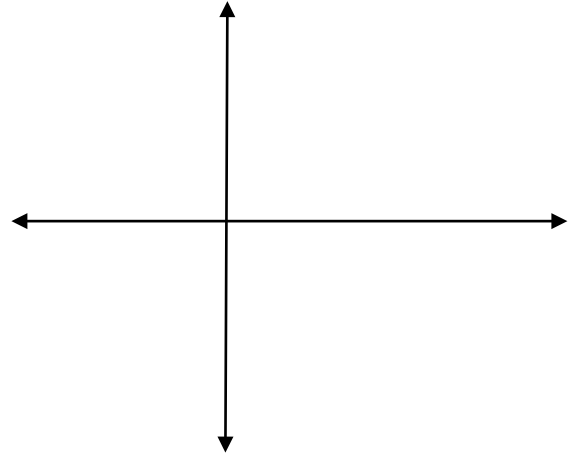
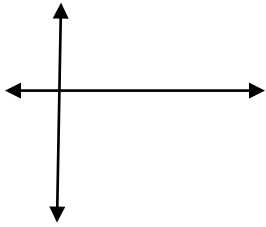
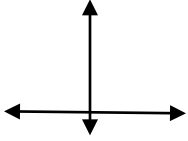
3. Find an equation of the line through  $(2, 1)$  and  $(-3, 2)$ , using the Point-Slope Method.

4. What is the slope of any line that is parallel to the line  $f(x) = \frac{2}{3}x - 4$ ? \_\_\_\_\_

5. What is the slope of any line that is *perpendicular* to the line  $f(x) = \frac{2}{3}x - 4$ ? \_\_\_\_\_

6. Graph the piecewise-defined function  $f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ \frac{2}{3}x - 4 & \text{if } x \geq 0 \end{cases}$ . Include any intercepts and the

suture point. **Hint:** You were asked to graph one of the pieces on the previous page!



7. Sketch the graph of  $g(x) = -\sqrt{3-x} - 5$ , by transforming (reflecting and shifting) the graph of  $f(x) = \sqrt{x}$ . Show 3 points in the graph of  $f$  and where they move to, in each sketch.

