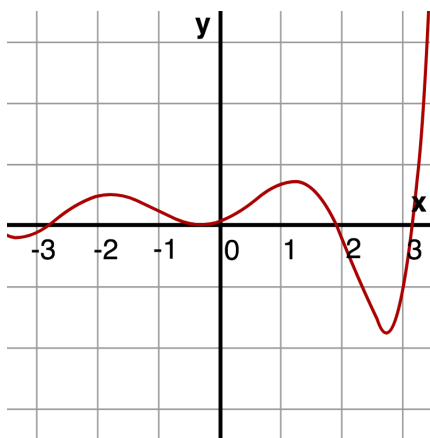
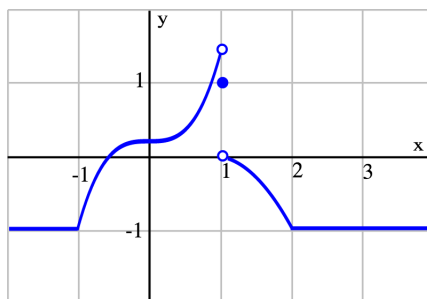

IN-CLASS ACTIVITY : DERIVATIVES II

1. Find the equation of the secant line of the graph of the function $f(x) = x^{\frac{1}{3}} + 1$ through the points $x_1 = 0$ and $x_2 = 8$.
2. Determine the line tangent to the graph of $y = 4x - 3x^2$ at $x = 1$.
3. Consider the function $g(x)$ graphed below.



Among the values $g'(-3)$, $g'(-1)$, $g'(1)$ and $g'(3)$, which one is the greatest and which one is the smallest?

4. Below the graph of f is given. List all the numbers a at which f is not differentiable.



5. Suppose we know that the tangent line to the graph of the function f at $x = 4$ is the line given by $y = 6x - 1$. What is $f(4)$?