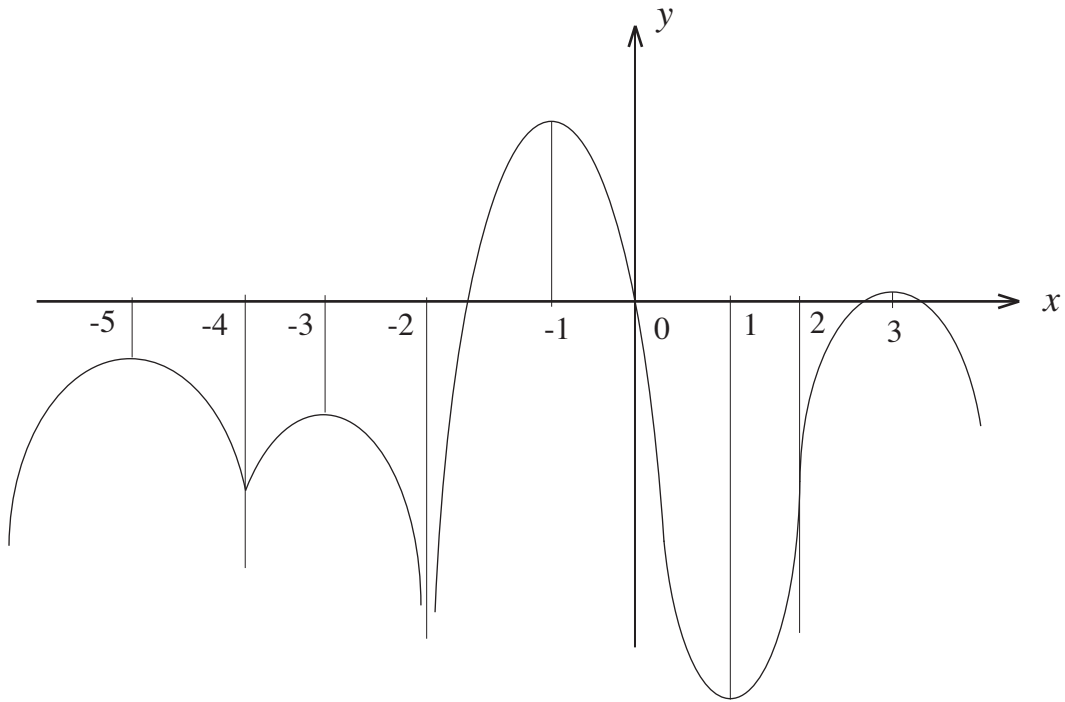


**Quiz 5. March 28, 08. Name:**

1. Consider the function  $f(x) = \frac{1}{x^3}$ . Determine the slope of the tangent line to the graph of this function at the point  $(2, \frac{1}{8})$  by setting up a limit and then evaluating it. You may use the formula  $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ .

2. Find the derivative of the function  $f(x) = \frac{(3x^2+5)^3}{(2x^3+7x^2)^5}$ . Complete the differentiation, but don't simplify beyond that.

3. Study the graph of a function  $y = f(x)$  below. The values of  $x$  for which this function is not differentiable are:  $x =$  , , , ,  $\dots$  .



Estimate the values of the derivative of  $f$  at  $x = -3, 0$ , and  $x = 2$ .