ICM Derivatives Name_____ ID: 1

Test Review 1

Date_____ Period____

For each problem, find the average rate of change of the function over the given interval.

1) $f(x) = -\frac{1}{x}$; [1, 2]

2) $y = -\frac{1}{x-3}$; [0, 1]

3) $y = -2x^2 - 1$; [−1, 0]

4) $f(x) = 2x^2 + 2x - 1$; [0, 1]

Use the definition of the derivative to find the derivative of each function with respect to *x*.

5) $f(x) = -\frac{1}{x-2}$

6) $y = -\frac{2}{2x+5}$

7) $y = 2x^2 + 3$

8) $f(x) = -3x - 5$

Differentiate each function with respect to *x*.

9) $y = x\sqrt{3} + 2\sqrt[3]{x} - \frac{1}{3}\sqrt[4]{x}$

10) $f(x) = 2x^2 - 2x^{\frac{3}{5}} + \frac{2}{5x}$

11) $y = 5x^3 - 3x^{-2} + 2x^{-5}$

12) $f(x) = 4 + \frac{4}{x^3} + \frac{4}{x^4}$