Derivatives

Name_____

Date_____

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

1) $y = x^2 - 5$

2) $y = x^2 - 5x + 5$

3) $y = -4x^2 + 2$

4) $y = \dfrac{1}{2x + 4}$

5) $y = \dfrac{2}{2x - 1}$

6) $y = -4x^2 - 2$

7) $y = 4x^2 + x + 5$

8) $y = 2x^2 + 4$

9) $y = 5x^2 - 5x - 1$

10) $y = x^2 + 5x - 1$

11) $y = 4x^2 + 3x + 3$

12) $y = 2x - 2$

13) $y = \frac{1}{x - 1}$

14) $y = \frac{1}{x + 2}$

15) $y = -\frac{2}{2x + 1}$

16) $y = 2x^2 - 3$

Answers to Derivatives

1) $\frac{dy}{dx} = 2x$

2) $\frac{dy}{dx} = 2x - 5$

3) $\frac{dy}{dx} = -8x$

4) $\frac{dy}{dx} = -\frac{1}{2x^2 + 8x + 8}$

5) $\frac{dy}{dx} = -\frac{4}{4x^2 - 4x + 1}$

6) $\frac{dy}{dx} = -8x$

7) $\frac{dy}{dx} = 8x + 1$

8) $\frac{dy}{dx} = 4x$

9) $\frac{dy}{dx} = 10x - 5$

10) $\frac{dy}{dx} = 2x + 5$

11) $\frac{dy}{dx} = 8x + 3$

12) $\frac{dy}{dx} = 2$

13) $\frac{dy}{dx} = -\frac{1}{x^2 - 2x + 1}$

14) $\frac{dy}{dx} = -\frac{1}{x^2 + 4x + 4}$

15) $\frac{dy}{dx} = \frac{4}{4x^2 + 4x + 1}$

16) $\frac{dy}{dx} = 4x$

