

Derivatives

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Name _____

Date _____

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

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

2) $y = 5x + 1$

3) $y = 2x + 4$

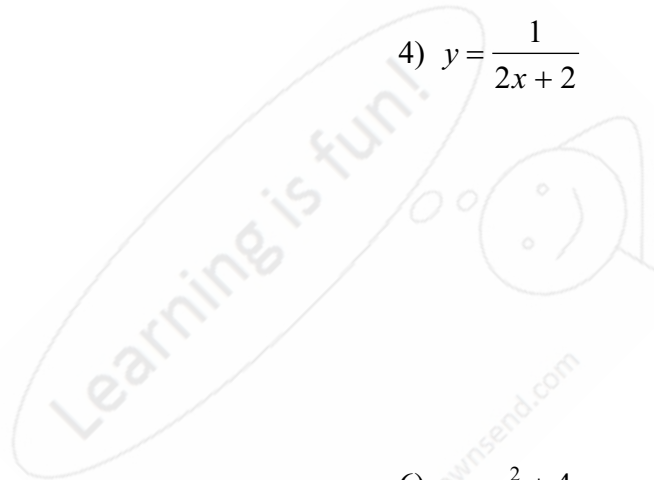
4) $y = \frac{1}{2x+2}$

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

6) $y = x^2 + 4$

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

8) $y = x + 5$



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

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

11) $y = 2x + 1$

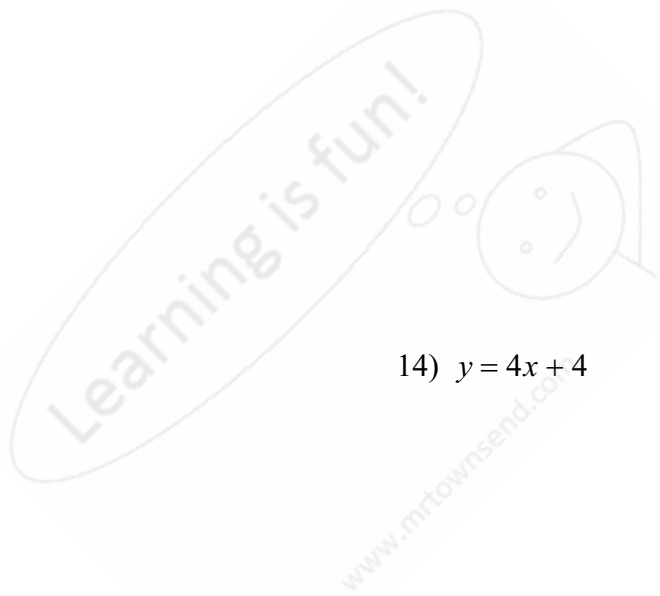
12) $y = x^2 + 2$

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

14) $y = 4x + 4$

15) $y = -3x + 2$

16) $y = 4x - 2$



Answers to Derivatives

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

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

$$3) \frac{dy}{dx} = 2$$

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

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

$$6) \frac{dy}{dx} = 2x$$

$$7) \frac{dy}{dx} = -\frac{4}{4x^2 + 20x + 25}$$

$$8) \frac{dy}{dx} = 1$$

$$9) \frac{dy}{dx} = 4x$$

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

$$11) \frac{dy}{dx} = 2$$

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

$$13) \frac{dy}{dx} = 4x + 4$$

$$14) \frac{dy}{dx} = 4$$

$$15) \frac{dy}{dx} = -3$$

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

