

15.2 Corrective Assignment #1 – Def. of the Der.

Name: _____

Pre-Calculus

Find the derivative using limits. If the equation is given as $y =$, use Leibniz Notation: $\frac{dy}{dx}$. If the equation is given as $f(x) =$, use Lagrange Notation: $f'(x)$.

1. $y = 6x - 3$

2. $y = 10$

3. $f(x) = 2x^2 - 6x$

4. $f(x) = 8x - 2x^2 + 2$

5. $y = \sqrt{x + 5}$

6. $f(x) = \frac{1}{6x-1}$

For each problem, create an equation of the tangent line of f at the given point. The answer can be in point-slope form OR slope-intercept.

7. $f(6) = 4$ and $f'(6) = -1$

8. $f(-5) = -2$ and $f'(-5) = 2$

9. $f(0) = 6$ and $f'(0) = 8$

Given a function and its derivative, find an equation of the tangent line at the given x-value.

10. $f(x) = 2x^2 - 5x$; $f'(x) = 4x - 5$; $x = -1$

11. $f(x) = 3\sqrt{4x-8}$; $f'(x) = \frac{6}{\sqrt{4x-8}}$; $x = 11$

Using the function listed, find the equation of the tangent line at the given x-value.

12. $f(x) = 6x + 5$; $x = 3$

13. $f(x) = x^2 - 2x + 6$; $x = -2$

Answers to 15.2 CA #1

1. $\frac{dy}{dx} = 6$	2. $\frac{dy}{dx} = 0$	3. $f'(x) = 4x - 6$	4. $f'(x) = 8 - 4x$	5. $\frac{dy}{dx} = \frac{1}{2\sqrt{x+5}}$
6. $f'(x) = -\frac{6}{(6x-1)^2}$	7. $y - 4 = -(x - 6)$ or $y = -x + 10$	8. $y + 2 = 2(x + 5)$ or $y = 2x + 8$	9. $y - 6 = 8(x)$ or $y = 8x + 6$	
10. $y - 7 = -9(x + 1)$ or $y = -9x - 2$	11. $y - 18 = (x - 11)$ or $y = x + 7$	12. $y - 23 = 6(x - 3)$ or $y = 6x + 5$	13. $y - 14 = -6(x + 2)$ or $y = -6x + 2$	