

Corrective Assignment**Find the derivative of the following.**

1. $f(x) = (x^3 + 5)(x^2 - 1)$

2. $y = \frac{x-2}{3x^2+1}$

3. $y = \frac{5x^2+7x-2}{2x}$

4. $g(x) = (x^2 - 3x + 2)(3x + 1)$

5. $h(x) = \frac{x^2-1}{x+2}$

6. $y = 3x(x^2 - 2x + 1)$

7. $f(x) = (x^3 + 5x - 2)(x - 3)$

8. $y = \frac{3x-2}{x+1}$

Write the equation of the tangent line and the normal line at the point given.

9. $f(x) = \frac{x-3}{2x+1}$ at $x = -1$

Write the equation of the tangent line and the normal line at the point given.

10. $f(x) = (x^2 + 3x - 2)(x + 1)$ at $x = 0$

11. $f(x) = \frac{2x-1}{3x+1}$ at $x = 3$

Find $f'(1)$ given the following.

$g(1) = 0$ and $g'(1) = 2$
 $h(1) = -1$ and $h'(1) = 5$

12. $f(x) = \frac{g(x)}{h(x)}$

13. $f(x) = g(x)h(x)$

Find $f'(-2)$ given the following.

$g(-2) = -3$ and $g'(-2) = 5$
 $h(-2) = 1$ and $h'(-2) = -4$

14. $f(x) = g(x)h(x)$

15. $f(x) = \frac{g(x)}{h(x)}$

Find $f'(0)$ given the following.

$g(0) = 7$ and $g'(0) = 3$
 $h(0) = -2$ and $h'(0) = -8$

16. $f(x) = \frac{h(x)}{g(x)}$

17. $f(x) = h(x)g(x)$

ANSWERS TO CORRECTIVE ASSIGNMENT

1. $5x^4 - 3x^2 + 10x$	2. $\frac{-3x^2+12x+1}{(3x^2+1)^2}$	3. $\frac{5}{2} + \frac{1}{x^2}$	4. $9x^2 - 16x + 3$
5. $\frac{x^2+4x+1}{(x+2)^2}$	6. $9x^2 - 12x + 3$	7. $4x^3 - 9x^2 + 10x - 17$	8. $\frac{5}{(x+1)^2}$
9. $y - 4 = 7(x + 1)$ Tangent $y - 4 = -\frac{1}{7}(x + 1)$ Normal	10. $y + 2 = 1(x)$ Tangent $y + 2 = -1(x)$ Normal	11. $y - \frac{1}{2} = \frac{1}{20}(x - 3)$ Tangent $y - \frac{1}{2} = -20(x - 3)$ Normal	
12. -2	13. -2	14. 17	15. -7
		16. $-\frac{50}{49}$	17. -62