

Section 2.3

1)  $f[g(x)] = (x^2 + 1)^3$

3)  $f[g(x)] = 5(3x - 4)^2$

5)  $f[g(x)] = 7(5x + 4)^{2/3}$

7)  $f[g(x)] = e^{x^2+2x+1}$

9)  $f[g(x)] = \ln(3x + 5)$

11)  $f(x) = x^2$        $g(x) = 7x - 3$

13)  $f(x) = 2x^5$        $g(x) = 4x + 7$

15)  $f(x) = \sqrt{x}$        $g(x) = x + 5$

17)  $h'(x) = 14(7x - 3)$

19)  $h'(x) = 40(4x + 7)^4$

21)  $h'(x) = 24(2x - 1)^2$

23)  $h'(x) = 6(x + 3)(x^2 + 6x + 1)^2$

25)  $y' = 5(2x - 4)^2(8x - 4)$  *can simplify more*  $y' = 80(x - 2)^2(2x - 1)$

27)  $g'(t) = 12t(2t + 5)(4t + 5)$

29)  $h'(y) = 2(5y + 4)(45y - 3)$  *can simplify more*  $h'(y) = 6(5y + 4)(15y - 1)$

31)  $y' = \frac{-12}{(3x-4)^3}$

33)  $y' = \frac{2(-9x-4)}{(3x-4)^5}$

35a)  $x = 3/2$

35b)  $y = 0$

37a)  $x = -3$

37b)  $y = 0$