AP Calculus AB   Name _____

Practice 3.3 – 3.4

Find the derivative of each function.

1) $y = (3x^4 + 5)^3$

2) $y = \sec\dfrac{x}{5}$

3) $f(x) = \dfrac{-2}{(3 - x^2)^3}$

4) $f(x) = \dfrac{3x}{(4x^2 - 7)^3}$

5) $y = \sqrt{6x - 2}$

6) $y = 2x\sqrt{3x - 1}$

7) $y = \cos^3(2x)$

8) $f(x) = x^3\cos(3x)$

9) $f(x) = \left(3x^2 - 2x\right)^{\frac{4}{3}}$

10) $f(x) = \tan^2(5x)$

11) $f(x) = \dfrac{3x-2}{2x+1}$

12) $f(x) = \csc x \cdot \tan x$

13) $y = (x-2)^2 \cos x$

14) $g(s) = (s^5 - 4)(s^3 + 3)$

15) $g(x) = e^x(x^3 + 2)$

16) $y = \sin(e^x)$

17) Find the first four derivatives of $f(x) = 2x^5 + 3x^4 - 7x^3 + 5x^2 - 10x + 21$.