

Differentiation - Trigonometric Functions

Date _____ Period _____

Differentiate each function with respect to x .

1) $f(x) = \sin 2x^3$

2) $y = \tan 5x^3$

3) $y = \sec 4x^5$

4) $y = \csc 5x^5$

5) $y = (2x^5 + 3)\cos x^2$

6) $y = \frac{-2x^2 - 5}{\cos 2x^3}$

7) $f(x) = \sin^3 x^5$

8) $f(x) = \cos (-3x^2 + 2)^2$

9) $y = \sin\left(\frac{x}{2}\right)^3$

10) $f(x) = \cot(2x^3 + 1)^2$

11) $y = \sin^2(3x)^4$

12) $f(x) = \csc^3(2x+1)^2$

13) Find the 2nd derivative of $f(x) = \sec(2x-1)$