

Assignment

Date _____ Period _____

Differentiate each function with respect to x .

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

2) $f(x) = \sqrt{-3x^4 - 5}$

3) $f(x) = (x^2 + 2)(-3x^4 + 5)^5$

4) $f(x) = \frac{-3x^5 + 4}{(-5x - 3)^4}$

5) $f(x) = e^{e^{3x^3}}$

6) $f(x) = e^{5x^2}(e^{5x^3} + 3)$

$$7) f(x) = e^{2x^2} \ln 3x^4$$

$$8) f(x) = \ln e^{2x^5}$$

$$9) f(x) = \ln 4x^5$$

$$10) f(x) = e^{5x^3}(5x^5 + 2)$$

$$11) f(x) = e^{\ln x^3 + 2}$$

$$12) f(x) = \ln 5x^4 \cdot \ln x^2$$

$$13) f(x) = \frac{e^{4x^3}}{5x^2 + 2}$$