Calculus AB

Name_____

Worksheet 4 - Derivatives I

Period_____

Use the definition of the derivative to find the derivative of each function with respect to *x*.

1) $y = 4x - 2$

2) $y = -2x + 3$

3) $y = -3x^2 - 5$

4) $y = -5x^2 - 5$

Differentiate each function with respect to *x*. Problems may contain constants a, b, and c.

5) $y = -5x^4$

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

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

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

9) $f(x) = -\dfrac{5}{3}x$

10) $f(x) = \dfrac{3}{4}x$

11) $y = x^{-3}\sqrt{3}$

12) $f(x) = x^{\frac{5}{3}}$

13) $f(x) = x^{\frac{3}{5}}\sqrt{5}$

14) $f(x) = -\dfrac{4}{3}x^{-1}$

15) $f(x) = x^2\sqrt{3}$

16) $y = -3ax^{\frac{4}{5}}$

17) $f(x) = 4x^{-2}$

18) $f(x) = -4cx^{\frac{1}{3}}$

19) $f(x) = -3ax$

20) $y = x^{-2}$

21) $f(x) = x^{\frac{4}{5}}\sqrt{3}$

22) $y = x^{\frac{1}{4}}$

23) $y = -\frac{3}{2}x^2$

24) $f(x) = 5x^{\frac{2}{5}}$