

Calculus H  
Ch. 3 #16

Name \_\_\_\_\_

Find the derivative of the following.

1.  $y = -3(\sqrt[4]{2-5x})$

2.  $y = \sin^5 6x$

3.  $y = \cos x + 4x^9$

4.  $f(x) = -3 \sin x - 2x$

5.  $g(x) = \frac{7}{8}x^{14} - 2 \cos x$

6.  $\frac{d}{dx}(x^3 - 2x)^4$

7.  $f(x) = \frac{2}{x^3} - \sin x + 6$

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

9.  $f(x) = 7^x$

10.  $f(x) = \ln(\cos x)$

11.  $f(x) = \ln x^8$

12.  $f(x) = \cos(x^3)$

13.  $f(x) = \cos^6 x$

14.  $f(x) = \sin 3$

15.  $f(x) = 12 \cos(3x)$

16.  $f(x) = (x^2 - 4)^3$

17.  $f(x) = 7x^{-4} - \frac{x^2}{6} - x + 7$

18.  $f(x) = 8\ln(x^5)$

19.  $f(x) = \log_5(\sin x)$

20.  $f(x) = \log_4(\sec x)$

21.  $f(x) = \ln\left(\frac{x^3}{\sin x}\right)$  Expand first!

22.  $f(x) = 17e^{-5x}$

23.  $f(x) = e^{\cos(x^2)}$

24.  $f(x) = \ln(\ln(4^x))$

25.  $f(x) = 4^{\sin(x^2)}$

26.  $f(x) = \ln(x^5 \cos x)$  Expand first

27.  $f(x) = (\ln(x^6))^2$

28.  $f(x) = \log_2(2x^3 - 7)^4$