Derivative Exam

Determine the first derivative of each of the following:

1. $f(x) = -5$
2. $f(x) = x^6$
3. $f(x) = -3x^{-5}$
4. $f(x) = 7x^{4/7}$
5. $f(x) = 5^x$
6. $f(x) = 7^{6x}$
7. $f(x) = 9^{x^3}$
8. $f(x) = (3x+5)^4$
9. $f(x) = (x^2 - 3x^6)^5$
10. $f(x) = e^7$
11. $f(x) = e^{-3x}$
12. $f(x) = e^{(5x^2-1)}$
13. $f(x) = \ln 7x$
14. $f(x) = \ln x^5$
15. $f(x) = \ln^4 x$
16. $f(x) = \log_5 x$
17. $f(x) = \log_3(3x^2)$
18. $f(x) = \log_4(3x^2 - 1)^3$
19. $f(x) = \sin 2x$
20. $f(x) = \sin 5x^2$
21. $f(x) = \sin^4 2x$
22. $f(x) = \cos 9x$
23. $f(x) = (\cos x^3)^5$
24. $f(x) = \cos^3 2x^2$
25. $f(x) = \ln x^3 + x^2$
26. $f(x) = 4x^2 - 3x^{-4} + x^{5/3}$
27. $f(x) = \sin(\ln x^2)$
28. $f(x) = 5^{\sin(x^3+5)}$
29. $f(x) = \cos\sin\cos 5x$
30. $f(x) = \log_3 \cos(\ln 5x)$