Határozza meg az alábbi függvények deriváltját.

1. $y = 4x^3 - x^2 + 7$
2. $y = x^4 - 2x^2 + 7x + 6$
3. $y = 4x^{\frac{1}{2}} - 3x^{\frac{1}{3}} + 7$
4. $y = 4x^{\frac{3}{2}} - 3\sqrt{2x}$
5. $y = \frac{3}{x} - 3x^{\frac{5}{3}} + 7 \cdot \sqrt[3]{x}$
6. $y = (2x+5)(3x^7 - 8x^2)$
7. $y = (5x-7)\sqrt{2x^5}$
8. $y = (3x^7 - 8x^2)\sin x$
9. $y = (3x^3 - 8x^2)(\sin x - \cos x)$
10. $y = \frac{x^3 - 1}{1 + 2x}$
11. $y = \frac{x^3 + 4}{x^2 + 2x}$
12. $y = \frac{x^3 + x^2 + 4}{\cos x}$
13. $y = \frac{x^2 \operatorname{tg} x}{2 + \cos x}$
14. $y = \frac{4}{(1 - x^2)(1 - 3x^3)}$
15. $y = \frac{x^3 + 3}{(x^2 + x + 1)\sin x}$
16. $y = \frac{2x^2 - 4x}{(1 - x^2)\sqrt{x}}$
17. $y = x^3 \ln x$
18. $y = e^x(3x^2 - 4x)$
19. $y = \frac{1 - arc\sin x}{1 + arc\sin x}$
20. $y = x \cdot \sin x \cdot \ln x$
21. $y = 2^x \cdot \sin x \cdot \log_2 x$
22. $y = 3^x(3x^7 - 8x^2 + 1)$
23. $y = \sin^3 x$
24. $y = \sin x^3$
25. $y = \operatorname{tg}(4x^2 + 1)$
26. $y = \sin(x^2 + 2x + 3)$
27. $y = \sqrt[3]{x - 3x^5}$
28. $y = \frac{1}{\cos 5x}$
29. $y = (3x^7 - 8x^2)^{10}$
30. $y = \left(\frac{1+x}{1+x^2}\right)^3$
31. $y = \operatorname{tg}^2 x^2$
32. $y = \sqrt{2x - \sin 2x}$
33. $y = (5x^6 - 8x^2)^{10} \operatorname{tg}\frac{1}{x}$
34. $y = \sin\frac{2+3x}{1+x^2}$
35. $y = \frac{\cos x^3}{2 + \sin^4 x}$
36. $y = \cos\left(\frac{2+x}{2^x}\right)$
37. $y = 10^{\sin x}$
38. $y = 10^{\sin^2 x}$
39. $y = 10^{\sin x^2}$
40. $y = \lg \sin 5x$
41. $y = \sqrt{\operatorname{tg} x^2}$
42. $y = e^{\sqrt{x-1}}$
43. $y = \operatorname{tg}\sqrt{\frac{x-1}{x+1}}$
44. $y = \operatorname{sh}\left[x^3 + \ln(x+8)\right]$
45. $y = ar\,\operatorname{th}(1 - x^2)$
46. $y = \sqrt[4]{\frac{1 + \operatorname{sh} x}{1 + \operatorname{th} x}}$
47. $y = arc\sin\sqrt{1 - x^2}$
48. $y = ar\,\operatorname{ch}\sqrt{x+1}$
49. $y = arc\operatorname{tg}\frac{1}{x}$
50. $y = e^{ar\,\operatorname{th} x^2}$
51. $y = e^{3x} \operatorname{sh} 2x$
52. $y = \frac{e^2 arc\operatorname{tg}\sqrt{x}}{\sqrt[3]{1 + \lg(10 - 2^x)}}$
53. $y = \ln 2 \cdot \operatorname{tg}\left(5x + \frac{\pi}{6}\right)$
54. $y = \ln \operatorname{tg}\frac{x}{2}$
55. $y = (1+x)^{(1-x)}$
56. $y = (\sin x)^x$
57. $y = \sqrt[x]{1 + x^2}$
58. $y = x^x + (\sin x)^{\sin x}$
59. $y = (\ln x)^{\lg x}$
60. $y = x(x+1)(x+2)(x+3)$