Derivirajte sljedeće funkcije :

1. $y = \sin^3(5x)\cos^2(\frac{x}{3})$
2. $y = \dfrac{\sqrt{2x^2 - 2x + 1}}{x}$
3. $y = \dfrac{x}{a^2\sqrt{a^2 + x^2}}$
4. $y = \frac{3}{2}\sqrt[3]{x^2} + \frac{18}{7}x\sqrt[6]{x} + \frac{9}{5}x\sqrt[3]{x^2} + \frac{6}{13}x^2\sqrt[6]{x}$
5. $y = \ln(\sqrt{1 + e^x} - 1) - \ln(\sqrt{1 + e^x} + 1)$
6. $y = \dfrac{(\mathrm{tg}^2 x - 1)(\mathrm{tg}^4 x + 10\mathrm{tg}^2 x + 1)}{3\mathrm{tg}^3 x}$
7. $y = \sin^2(t^3)$
8. $y = \frac{1}{2}(\arcsin(x))^2 \arccos(x)$
9. $y = \arcsin\left(\dfrac{x}{\sqrt{1 + x^2}}\right)$
10. $y = \ln(\arcsin(5x))$
11. $y = 3b^2 \mathrm{arctg}\left(\sqrt{\dfrac{x}{b - x}}\right) - (3b + 2x)\sqrt{bx - x^2}$
12. $y = e^{\sin^2 x}$
13. $F(t) = e^{\alpha t}\cos\beta t$
14. $y = \sqrt{\cos x}a^{\sqrt{\cos x}}$
15. $y = 3^{\mathrm{ctg}\frac{1}{x}}$
16. $y = \ln(a + x + \sqrt{2ax + x^2}$
17. $y = \ln\cos\dfrac{x - 1}{x}$
18. $y = \ln\ln(3 - 2x^3)$
19. $y = \ln\dfrac{\sqrt{x^2 + a^2} + x}{\sqrt{x^2 + a^2} - x}$
20. $y = 2^{\arcsin(3x)} + (1 - \arccos(3x))^2$
21. $y = 3^{\frac{\sin ax}{\cos bx}} + \dfrac{1}{3}\dfrac{\sin^3 ax}{\cos^3 bx}$
22. $y = \ln\dfrac{1 + \sqrt{\sin x}}{1 - \sqrt{\sin x}} + 2\mathrm{arctg}\sqrt{\sin x}$
23. $y = e^{\alpha x}\mathrm{ch}\beta x$
24. $y = \mathrm{Arsh}\dfrac{x^2}{a^2}$
25. $y = \mathrm{Arth}\dfrac{2x}{1 + x^2}$