Derivace II

Určete definiční obor a derivujte funkce:

1. $y = x^2 \log_3 x$
2. $y = x \ln x$
3. $y = \dfrac{x-1}{\ln x}$
4. $y = \sqrt{\ln x}$
5. $y = x \sin(\ln(x))$
6. $y = \dfrac{\ln x}{1+x^2}$
7. $y = \sqrt{1-2\ln x}$
8. $y = \sqrt{1+\ln^2 x}$
9. $y = \ln(1-2x)$
10. $y = \ln(x^2 - 4x)$
11. $y = \ln \sin x$
12. $y = \ln tgx$
13. $y = 2^x$
14. $y = \dfrac{1}{3^x}$
15. $y = \dfrac{x}{4^x}$
16. $y = e^{-x}$
17. $y = \dfrac{x}{e^x}$
18. $y = x \cdot e^x$
19. $y = \dfrac{x^2 + 2^x}{e^x}$
20. $y = e^x \cdot \cos x$
21. $y = \dfrac{e^x}{1+x^2}$
22. $y = e^{\sqrt{\ln x}}$

Derivujte funkce:

1. $y = \ln(x - \cos x))$
2. $y = x \cdot 10^{\sqrt{x}}$
3. $y = \sin^2(2x)$
4. $y = \ln(1-\sqrt{x})$
5. $y = \sin^3 x + \cos^{3x}$
6. $y = \dfrac{-2\cos x}{3} - \dfrac{\cos 2x}{8}$
7. $y = xe^{-x^2}$
8. $f(r) = \pi \cdot r^2 v$
9. $s(t) = \dfrac{1}{2} a t^2$
10. $u(c) = x\sqrt{c^2 - x^2}$
11. $f(y) = \dfrac{x}{y} - x^3 + \dfrac{y^2}{x}$
12. $s(t) = \dfrac{xt}{x+t^2}$