

ESERCIZI SU EQUAZIONI DIFFERENZIALI LINEARI DEL PRIMO ORDINE

1. $y' = \frac{x+3}{x}y + 4x^3 e^{3x}; \quad y(1) = 3$
2. $y' = \frac{x-2}{x}y + \frac{4}{x^2}e^{3x}; \quad y(1) = 3$
3. $y' = \frac{x-3}{x}y + 4\frac{e^{3x}}{x^3}; \quad y(1) = 3$
4. $y' = \frac{x+2}{x}y + 4x^2 e^{3x}; \quad y(1) = 3$
5. $y' = -\cot x \cdot y + 8\cos^2 x, \quad y\left(\frac{\pi}{2}\right) = 2$
6. $y' = \tan x \cdot y + 8\sin^2 x, \quad y(0) = 2$
7. $y' = \frac{x+1}{x}y - x^2, \quad y(2) = 4$
8. $y' = \frac{-4xy}{x^2+2} + 6x; \quad y(0) = 3$
9. $y' = \frac{-4xy}{x^2-1} + 6x; \quad y(0) = 3$
10. $y' = \frac{2x^2-3}{x}y + \frac{4}{x^2}; \quad y(1) = -3$
11. $y' = \frac{3+2x^2}{x}y + 4x^4; \quad y(1) = -3$
12. $y' = \frac{1+2x^2}{x}y + 4x^2; \quad y(1) = -3$
13. $y'(x) = \frac{2x+3}{x}y(x) + 2x^3; \quad y(1) = -2$
14. $y' = \frac{x+1}{x-1}y - e^x; \quad y(2) = e^2$
15. $y' = \frac{x}{x+2}y - e^x; \quad y(1) = e^2$
16. $y'(x) = \frac{2}{x+3}y(x) + (x+3)^3; \quad y(0) = 0$
17. $y'(x) = \frac{2x+3}{x^2+3x}y(x) + x^3 + 3x^2; \quad y(-1) = -2$
18. $y'(x) = \frac{2x+5}{x^2+5x}y(x) + x^3 + 5x^2; \quad y(-1) = -1$
19. $y'(x) = \sin x \cdot y(x) + e^{x-\cos x}, \quad y(0) = 3$
20. $y'(x) = \frac{xy(x)}{1-x} + e^{-x}, \quad y(0) = 1$
21. $y'(x) = \frac{1}{2} \frac{xy(x)}{x+2} + e^{-x}, \quad y(0) = \frac{1}{9}$
22. $y'(x) = \frac{1}{3} \frac{xy(x)}{x+3} + e^{-x}, \quad y(0) = \frac{1}{16}$
23. $y'(x) = \frac{3x-1}{x}y(x) + \frac{e^{2x}}{x}; \quad y(1) = e^2$
24. $y'(x) = \frac{2x-1}{x}y(x) + \frac{e^x}{x}; \quad y(1) = e$
25. $y'(x) = \frac{x-3}{x}y(x) + \frac{1}{x^3}, \quad y(1) = -1$
26. $y'(x) = \frac{x-3}{x}y(x) + \frac{1}{x^3}, \quad y(1) = -1$
27. $y'(x) = \frac{x+2}{x}y(x) + x^2, \quad y(1) = -1$
28. $y'(x) = \frac{xy(x)}{1-x} + e^{-x}, \quad y(0) = 1$
29. $y'(x) = \frac{xy(x)}{x+1}, \quad y(0) = \frac{1}{4}$
 $y' = \frac{x}{x-2}y + 3e^x; \quad y(0) = 4$
30. $y' = \frac{x}{x-4}y + 3e^x; \quad y(0) = 3$
31. $y' = \frac{x}{x+4}y + 5e^x; \quad y(0) = 3$
32. $y' = \frac{x}{x+3}y + 4e^x; \quad y(0) = 2$
33. $y' = \frac{xy}{x^2-3} + 4x; \quad y(1) = 2$
34. $y' = \frac{xy}{x^2-4} + 4x; \quad y(1) = 3$
35. $y' = \frac{xy}{1+x} + \frac{e^x}{x^2-1}; \quad y(0) = -3$
36. aggiornato al ottobre 2010