

Corrigé des exercices sur le logarithme népérien

Corrigé des exercices

1. $\ln(3) + \ln(5) = \ln(3 \times 5) = \ln(15)$
2. $\ln(12) - \ln(4) = \ln\left(\frac{12}{4}\right) = \ln(3)$
3. $\ln(2^5) = 5 \ln(2)$
4. $\ln\left(\frac{25}{5}\right) = \ln(5)$
5. $\ln(\sqrt{e}) = \ln(e^{1/2}) = \frac{1}{2} \ln(e) = \frac{1}{2}$
6. $\ln(7) + \ln(2) - \ln(14) = \ln(7 \times 2) - \ln(14) = \ln(14) - \ln(14) = 0$
7. $\ln(8) - \ln(2^3) = \ln(8) - 3 \ln(2) = 3 \ln(2) - 3 \ln(2) = 0$
8. $\ln\left(\frac{x^2}{y}\right) = \ln(x^2) - \ln(y) = 2 \ln(x) - \ln(y)$
9. $2 \ln(a) + \ln(b) - \ln(a^2 b) = 2 \ln(a) + \ln(b) - (\ln(a^2) + \ln(b)) = 2 \ln(a) + \ln(b) - 2 \ln(a) - \ln(b) = 0$
10. $\ln\left(\frac{1}{e^3}\right) = \ln(e^{-3}) = -3 \ln(e) = -3$
11. $\ln(10) + \ln(0.1) = \ln(10 \times 0.1) = \ln(1) = 0$
12. $\ln(4) - \ln(2) = \ln\left(\frac{4}{2}\right) = \ln(2)$
13. $\ln(a^3) - 3 \ln(a) = 3 \ln(a) - 3 \ln(a) = 0$
14. $\ln\left(\frac{16}{4}\right) = \ln(4)$
15. $\ln(\sqrt{x}) - \frac{1}{2} \ln(x) = \frac{1}{2} \ln(x) - \frac{1}{2} \ln(x) = 0$
16. $\ln(9) - 2 \ln(3) = \ln(3^2) - 2 \ln(3) = 2 \ln(3) - 2 \ln(3) = 0$
17. $\ln(xy) - \ln(x) - \ln(y) = \ln(x) + \ln(y) - \ln(x) - \ln(y) = 0$
18. $\ln\left(\frac{e^x}{e^y}\right) = \ln(e^x) - \ln(e^y) = x - y$
19. $3 \ln(2) - \ln(8) = 3 \ln(2) - \ln(2^3) = 3 \ln(2) - 3 \ln(2) = 0$
20. $\ln\left(\frac{a^2}{b^3}\right) = \ln(a^2) - \ln(b^3) = 2 \ln(a) - 3 \ln(b)$