

10.3 Logarithms

1) They appear to be symmetric about the line $y = x$.

3)

a) $\log(1000) = 3$

b) $\log(10) = 1$

c) $\log(1) = 0$

d) $\log\left(\frac{1}{100}\right) = -2$

7) $\log(16) \approx 1.2$

9)

a) $\log(600) = x$

b) $\log\left(\frac{1}{3}\right) = 1.5x$

c) $\log(0.2) = 3x + 1$

11)

a) $x = 10^2$

b) $x = 10^3$

c) $x = 10^1$

13)

a) $x = \frac{4}{5}$

b) $x = 1000$

c) $x = 5.7$

15) $x \approx 501.187$

17) Half-life ≈ 2.41 yrs

19)

a) $A(t) = 750 \left(1 + \frac{0.052}{12}\right)^{12t}$

b) $t \approx 18.9$ yrs