Solutions

1. $\log_2 256 = \dfrac{\log 256}{\log 2} = 8, \qquad \text{since} \quad 2^8 = 256$

2. $\log_3 2187 = \dfrac{\log 2187}{\log 3} = 7, \qquad \text{since} \quad 3^7 = 2187$

3. $\log 200 = 2.301.., \qquad \text{since} \quad 10^{2.301..} = 200$

4. $\log 2000 = 3.301.., \qquad \text{since} \quad 10^{3.301..} = 10^{2.301..} \cdot 10^1 = 2000 = 200 \cdot 10$

5. $\ln 200 = 5.298.., \qquad \text{since} \quad e^{5.298..} = 200$

6. Calculate the maturity in the introductary example of section 1. Definition of a logarithm.

$$n = \log_{1.05} 1.98 = \frac{\log 1.98}{\log 1.05} = 14$$

Therefore, 14 years.