Samples **Exponential decay SOLUTIONS**

1. Let A be the final amount of the material remaining. Then

$$\begin{aligned} A &= 400e^{-0.05\times 11} \\ &= 400e^{-0.55} \\ &\approx 230.78 \end{aligned}$$

Hence the amount of material remaining after 11 thousand years is approximately 230.78 units.

2. Let A be the final amount of the material remaining. Then

$$\begin{aligned} A &= 400e^{-0.03\times 12} \\ &= 400e^{-0.36} \\ &\approx 279.07 \end{aligned}$$

Hence the amount of material remaining after 12 thousand years is approximately 279.07 units.

3. Let A be the final amount of the material remaining. Then

$$\begin{aligned} A &= 300e^{-0.01\times 17} \\ &= 300e^{-0.17} \\ &\approx 253.10 \end{aligned}$$

Hence the amount of material remaining after 17 thousand years is approximately 253.10 units.