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Opgave 019

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$$T_{0.5} = \frac{\log 0.5}{\log a} \quad f(x) = b \cdot a^x$$

$$f(x + T_{0.5}) = 2 \cdot f(x)$$

$$b \cdot a^{x+T_{0.5}} = 2 \cdot b \cdot a^x \quad | : b$$

$$a^{x+T_{0.5}} = 2a^x$$

$$a^x \cdot a^{T_{0.5}} = 2a^x \quad | : a^x$$

$$a^{T_{0.5}} = 2$$

$$\ln(a^{T_{0.5}}) = \ln(2)$$

$$T_{0.5} \cdot \ln(a) = \ln(2) \quad | : \ln(a)$$

$$T_{0.5} = \frac{\ln(2)}{\ln(a)}$$