	Navn:		Skole:	
	Klasse: 20		Dato: 22. februar 2022	Fag: Matematik A

Opgave 281

$$f(t) = a \cdot 0.98^t$$

$$a = 12000$$

Opgave A

$$f(10) = 12000 \cdot 0.98^{10}$$
$$f(10) = 9804{,}874$$

Opgave B

$$8000 = 12000 \cdot 0.98^t$$
$$\frac{8000}{12000} = 0.98^t \qquad Divider\ med\ 12000$$
$$\log\left(\frac{8000}{12000}\right) = t \cdot \log(0.98) \qquad Log\ på\ begge\ sider$$
$$\frac{\log\left(\frac{8000}{12000}\right)}{\log(0.98)} = t \qquad Divider\ med \log(0.98)$$
$$t = \frac{\log\left(\frac{8000}{12000}\right)}{\log(0.98)} \qquad Byt\ sider$$
$$t = 20{,}07 \qquad Udregn$$

Opgave C

$$T_{\frac{1}{2}} = -\frac{\log(2)}{\log(0.98)} = 34{,}30962$$

Opgave D

$$100 = 12000 \cdot 0.98^t$$
$$\frac{100}{12000} = 0.98^t \qquad Divider\ med\ 12000$$
$$\log\left(\frac{100}{12000}\right) = t \cdot \log(0.98) \qquad Log\ på\ begge\ sider$$
$$\frac{\log\left(\frac{100}{12000}\right)}{\log(0.98)} = t \qquad Divider\ med \log(0.98)$$
$$t = \frac{\log\left(\frac{100}{12000}\right)}{\log(0.98)} \qquad Byt\ sider$$
$$t = 236{,}9728 \qquad Udreng$$
$$t = 237 \qquad Rund\ op$$