

$$\boxed{21} \quad (a) \quad A(x) = 750 \Rightarrow 500e^{0.09x} = 750 \Rightarrow e^{0.09x} = 1.5 \Rightarrow \ln e^{0.09x} = \ln 1.5 \Rightarrow 0.09x = \ln 1.5 \Rightarrow$$

$$x = \frac{\ln 1.5}{0.09} \approx 4.505$$

(b) If \$500 is invested at 9% compounded continuously, it will grow to approximately \$750 after 4.5 years.