Since y doubles every 5 hours

$$100 = 50 e^{0.1386(5)}$$

$$\frac{100}{50} = e^{5k}$$

$$2 = e^{5k}$$

taking ln of both sides

$$5k = \ln 2$$

$$k = \frac{\ln 2}{5}$$

$$k = 0.1386$$

$$\therefore \quad y = 50 e^{0.1386 \times t}$$

d) From the model in section I observed that they all followed a similar pattern (i.e $y = 10, 20, 30, 50$). Only the constant C changed which was equal to y. Also from the graphs drawn it was shown that exponential ~~decay~~ Growth increased with an increase in time. Also, the amount of initial deca exponent ~~exponential decay~~ Growth determined how fast it can increase.