constant

$$\frac{P}{256-P} = B e^{(17\cdot 256)t}$$

Solve for P:

$$P = 256\, B e^{(17\cdot 256)t} - P B e^{(17\cdot 256)t}$$

$$\left(1 + B e^{(17\cdot 256)t}\right) P = 256\, B\, e^{(17\cdot 256)t}$$

$$P = \frac{256\, B e^{(17\cdot 256)t}}{1 + B e^{(17\cdot 256)t}}$$

$$= \frac{256}{B^{-1} e^{-(17\cdot 256)t} + 1}$$

Now if P_0 is population at time 0, we find

$$\frac{P_0}{256-P_0} = B$$

So
$$P = \frac{256}{\left(\frac{256-P_0}{P_0}\right) e^{-(17\cdot 256)t} + 1}$$

$$P = \frac{256\, P_0}{(256-P_0)\, e^{-(17\cdot 256)t} + P_0}$$