> $dexp := 0.0004 \cdot P^2(t) - 0.06 \cdot P(t)$

$$dexp := 0.0004\, P(t)^2 - 0.06\, P(t) \qquad \textbf{(1)}$$

> $ddexp := diff(P(t), t) = dexp$

$$ddexp := \frac{\mathrm{d}}{\mathrm{d}t} P(t) = 0.0004\, P(t)^2 - 0.06\, P(t) \qquad \textbf{(2)}$$

> $population200 := dsolve(\{ddexp, P(0) = 200\}, P(t))$

$$population200 := P(t) = -\frac{600}{e^{\frac{3t}{50}} - 4} \qquad \textbf{(3)}$$

> $population100 := dsolve(\{ddexp, P(0) = 100\}, P(t))$

$$population100 := P(t) = \frac{300}{2 + e^{\frac{3t}{50}}} \qquad \textbf{(4)}$$

> $T := 23$

$$T := 23 \qquad \textbf{(5)}$$

> $evalf\left(-\frac{600}{e^{\frac{3T}{50}} - 4}\right)$

$$23905.93207 \qquad \textbf{(6)}$$

> $T :=$ infinity

$$T := \infty \qquad \textbf{(7)}$$

> $evalf\left(\frac{300}{2 + e^{\frac{3T}{50}}}\right)$

$$0. \qquad \textbf{(8)}$$

> $T := 20$

$$T := 20 \qquad \textbf{(9)}$$

> $evalf\left(-\frac{600}{e^{\frac{3T}{50}} - 4}\right)$

$$882.5046840 \qquad \textbf{(10)}$$

> $evalf\left(\frac{300}{2 + e^{\frac{3T}{50}}}\right)$

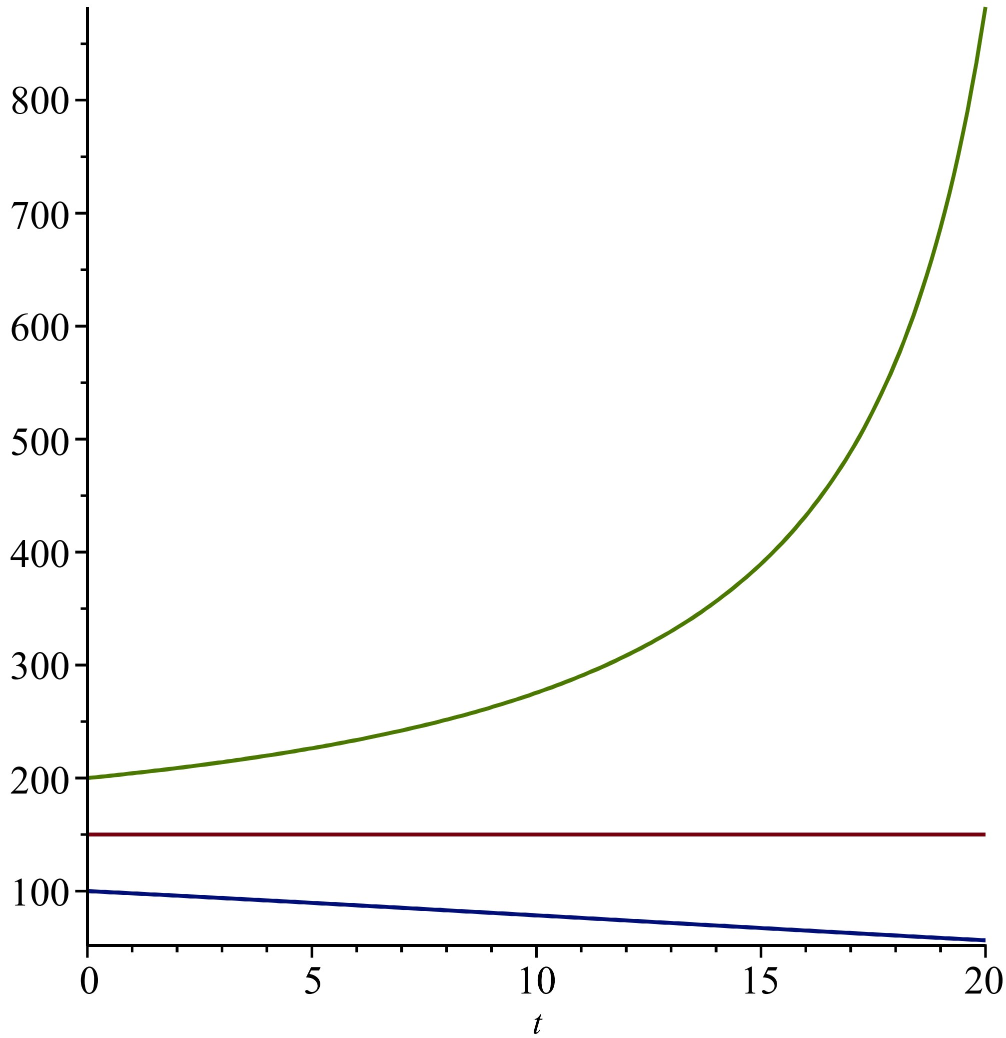
$$56.38973811 \qquad \textbf{(11)}$$

> $a, b := solve(dexp = 0, P(t))$

$$a, b := 0., 150. \qquad \textbf{(12)}$$

> $plot\left(\left\{-\frac{600}{e^{\frac{3t}{50}} - 4}, \frac{300}{2 + e^{\frac{3t}{50}}}, b\right\}, t = 0..20\right)$

 # Графіки розходяться, від стійкої популяції, тому маємо нестійкий випадок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