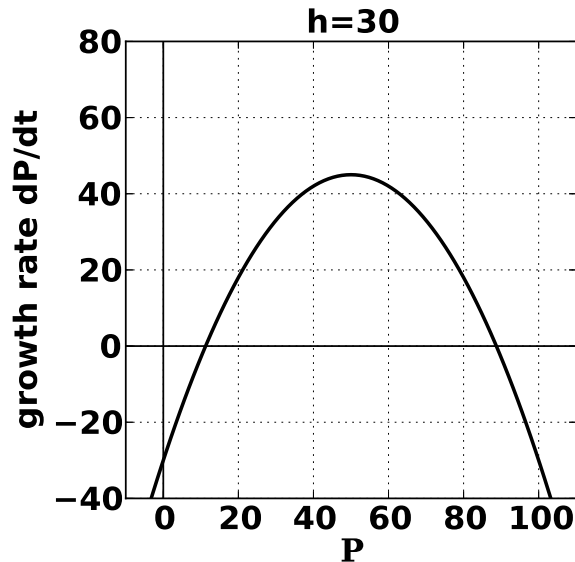


Solutions to Quiz 1, Unit 4.2



This question refers to the logistic differential equation with harvest

$$\frac{dP}{dt} = rP \left(1 - \frac{P}{K} \right) - h, \quad (1)$$

Where $h = 30$. The right-hand side of this equation is plotted in the figure.

1. What is the phase line for this differential equation?

Solution: The correct phase line is the middle one on the figure. There is an attracting fixed point at $P \approx 89$ and a repelling fixed point at $P \approx 11$.

