

11. To the nearest whole number, what is the initial value of a population modeled by the logistic equation  $P(t) = \frac{175}{1 + 6.995e^{-0.68t}}$ ? What is the carrying capacity?
12. Rewrite the exponential model  $A(t) = 1550(1.085)^x$  as an equivalent model with base  $e$ . Express the exponent to four significant digits.
13. A logarithmic model is given by the equation  $h(p) = 67.682 - 5.792\ln(p)$ . To the nearest hundredth, for what value of  $p$  does  $h(p) = 62$ ?
14. A logistic model is given by the equation  $P(t) = \frac{90}{1 + 5e^{-0.42t}}$ . To the nearest hundredth, for what value of  $t$  does  $P(t) = 45$ ?
15. What is the  $y$ -intercept on the graph of the logistic model given in the previous exercise?

