

Exponential Functions Review (7.1-7.3)

You must show the equations used in addition to your solutions.

1) State whether the function is an exponential growth or decay.

a) $y = 6 \cdot \left(\frac{1}{2}\right)^x$

b) $y = \frac{1}{3} \cdot 2^x$

2) State the domain, range, and asymptote of the graph of the function $y = 3^{x-5} + 6$.

Domain: _____ Range: _____ Asymptote: _____

3) You deposit \$500 into a savings account that pays 5.2% interest compounded monthly.

a) Find the balance after 6 years.

b) If you are trying to save to \$750, about how many years will it take?

4) Your neighbor bought a car for \$35,000. If the value depreciates by 20% each year, what will the car be worth in 5 years?

5) You deposit \$800 into a savings account that pays 3.1% compounded continuously.

a) How much will be in the account after 7 years?

b) How long will it take for the account to have \$1200?

6) In 1990, the population of Austin, Texas, was 494,290. During the next 10 years, the population increased by about 3% each year.

a) Write an exponential growth model giving the population P (in thousands) of Austin t years after 1990.

b) What is the population in 2000?

c) State the domain and range.

d) Estimate the year when the population was about 590,000.