1. The Mendez family just bought a home for $180,000. If the value of the home increases at a rate of 3% per year, use an exponential function to find the approximate value of the home after 10 years.

A. $258,000

B. $250,000

C. $242,000

D. $234,000

2. Doug purchased land for $8,000 in 1995. The value of the land depreciated by 4% each year thereafter. Use an exponential function to find the approximate value of the land in 2002.

A. $5,760

B. $5,771

C. $6,012

D. $6,262

3. Decide whether the word problem represents a linear or exponential function. Circle either linear or exponential. Then, write the function formula.

a. "A library has 8000 books, and is adding 500 more books each year."

Linear or exponential?   y = _____.

b. "A gym's customers must pay $50 for a membership, plus $3 for each time they use the gym."

Linear or exponential?   y = _____.

c. "A bank account starts with $10. Every month, the amount of money in the account is tripled."

Linear or exponential?   y = _____.

d. "At the start of a carnival, you have 50 ride tickets. Each time you ride the roller coaster, you have to pay 6 tickets."

Linear or exponential?   y = _____.

e. "There are 20,000 owls in the wild. Every decade, the number of owls is halved."

Linear or exponential?   y = _____.

Part I – Graphing Exponential Functions

Directions: Graph each exponential function by creating a table, then identify its key characteristics.

1. $y = \left(\dfrac{1}{3}\right)^x$

a:

b:

h:

k:
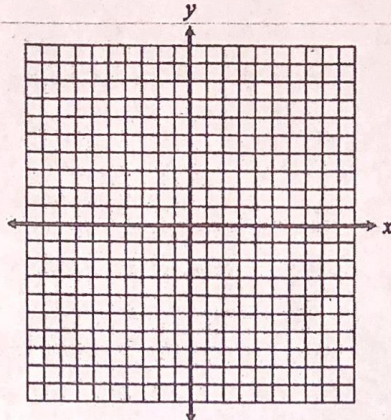
Stretch/shrink/neither

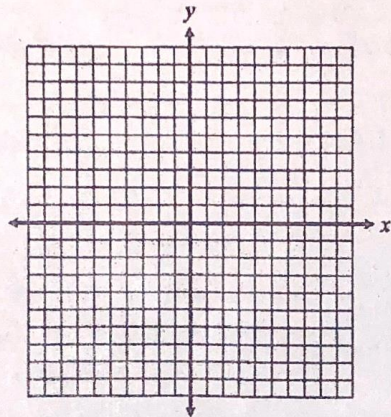Growth / Decay

Domain: _____

Range: _____

y-intercept: _____

Asymptote: _____

2. $y = 2^x + 6$

a:

b:

h:

k:

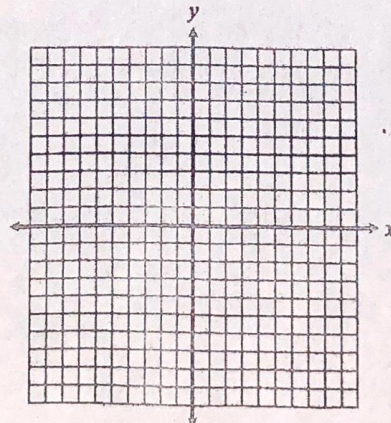Stretch/shrink/neither

Growth / Decay

Domain: _____

Range: _____

y-intercept: _____

Asymptote: _____

3. $y = 8 \cdot \left(\dfrac{1}{4}\right)^x - 1$

a:

b:

h:

k:

Stretch/shrink/neither

Growth / Decay

Domain: _____

Range: _____

y-intercept: _____

Asymptote: _____