

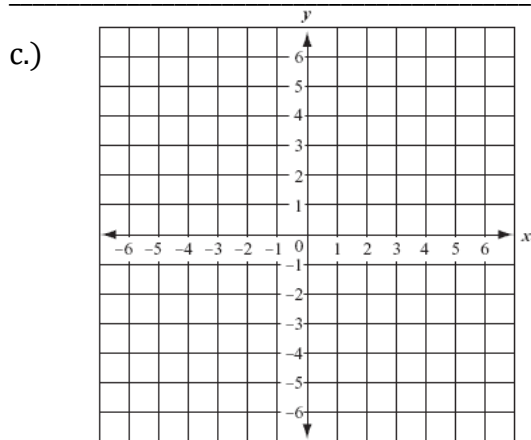
Study Guide: Transformations of Parent Functions, Graphing Exponential Functions, and Using Exponential Models to Predict Future Outcomes

$$f(x) = \frac{1}{2}|x - 4| + 2$$

a.) Name of parent function:

Parent Function: _____

b.) Transformations:



d.) Domain: _____

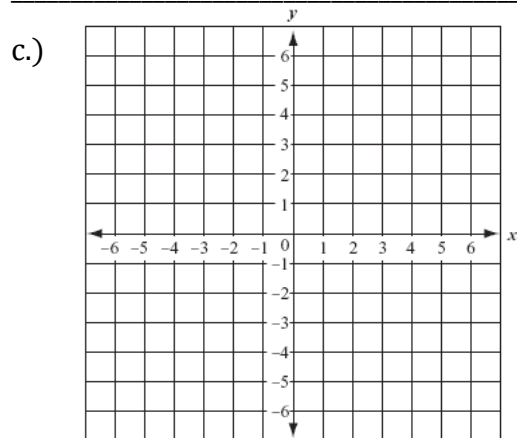
Range: _____

$$f(x) = 2(x + 3)^3 - 4$$

a.) Name of parent function:

Parent Function: _____

b.) Transformations:



d.) Domain: _____

Range: _____

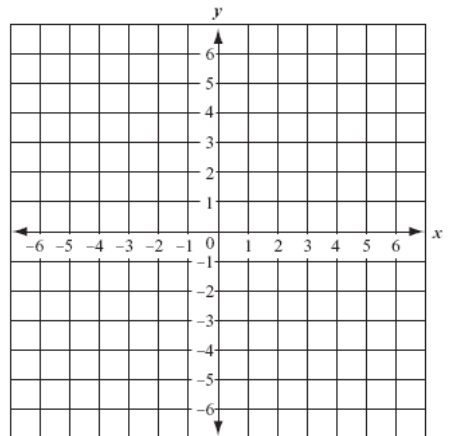
$$f(x) = -(x + 5)^2 + 4$$

a.) Name of parent function:

Parent Function: _____

b.) Transformations:

c.)



d.) Domain: _____

Range: _____

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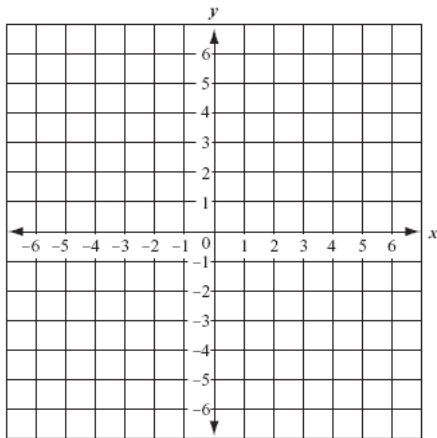
$$f(x) = 2\sqrt{-x} + 3$$

a.) Name of parent function:

Parent Function: _____

b.) Transformations:

c.)



d.) Domain: _____

Range: _____

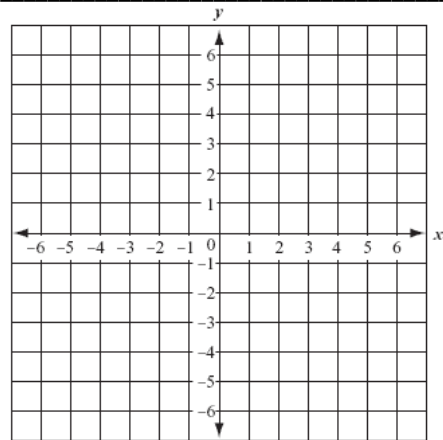
$$f(x) = -\frac{1}{2}x - 4$$

a.) Name of parent function:

Parent Function: _____

b.) Transformations:

c.)



d.) Domain: _____

Range: _____

$$f(x) = 2\left(\frac{1}{2}\right)^{x-1} - 5$$

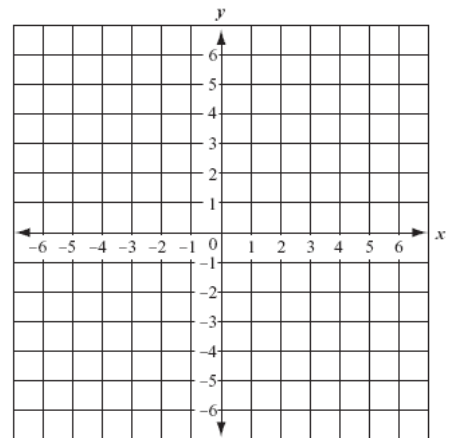
a.) Name of parent function:

Parent Function: _____

b.) Transformations:

d.) Asymptote: _____

e.)



c.)

x	y

f.) Domain: _____

Range: _____

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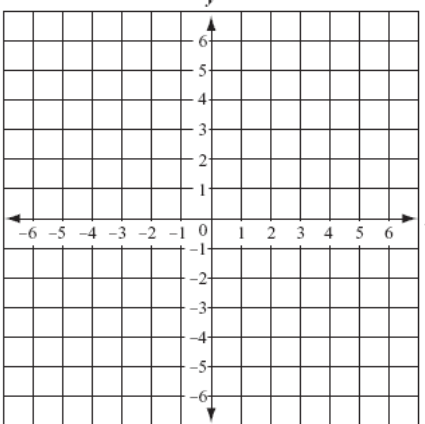
$$f(x) = -(2)^{x+4} + 6$$

a.) Name of parent function: _____

Parent Function: _____

b.) Transformations: _____

d.) Asymptote: _____

e.) 

c.)

x	y

f.) Domain: _____

Range: _____

Janel Lopez hates mosquitos and noticed that she's been getting bitten more than ever in Palm Springs. She does some research and discovers that the number of mosquitoes has been increasing every year since 2016 at 45%. This is a concern here in the valley because these mosquitos carry various diseases, including West Nile Virus and Zika. In 2016, there were 2,500 mosquitoes.

a.) Write a model for this situation.

b.) How many mosquitoes would you predict to be in Palm Springs in 2025?

Katalina Tidwell loves marine life and has taken a huge liking to Sea Turtles. She soon discovers that the Hawksbill Sea Turtles are of the top ten most endangered species in the world. In the past there were millions of Hawksbill turtles around the world and today there are 25,000 left and are decreasing at a rate of 90%. At this rate, how many turtles will be left in the world in 2022?

a.) Write a model for the decreasing Hawksbill Sea Turtles.

b.) How many will be left in 2022?

Kevin Valdez loves monkeys and discovers you can buy finger monkeys online for \$1500.00. His rich uncle gives Kevin 3 shares of Disney stock at \$109.00 each, which gains 31.9% interest compounded quarterly.

a.) Write a model for the amount of money Kevin will have in any number of years?

b.) How much money will Kevin have for his finger monkey in 4 years?

c.) Will he have enough?