

Assignment

Write

Identify the characteristics of the linear function family.

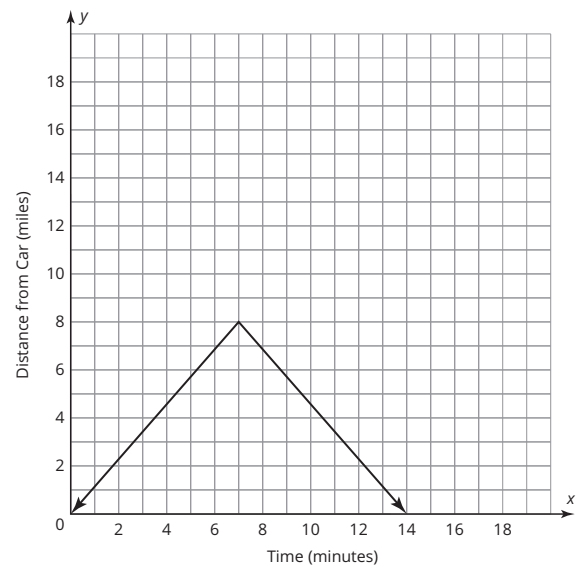
Remember

Function families have key characteristics that are common among all functions in the family. Knowing these key characteristics is useful when sketching a graph of the function.

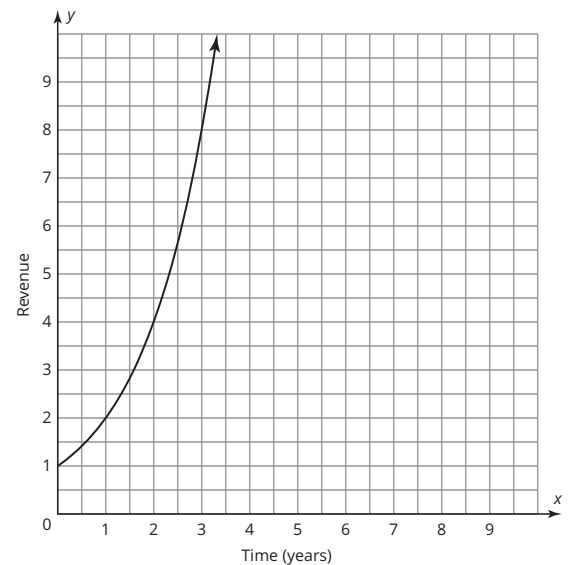
Practice

For each scenario and its graph, identify the appropriate function family. Then, based on the problem situation, identify whether the data values represented in the graph are discrete or continuous. Finally, identify the graphical behavior of the function that models the scenario based on the characteristics of its function family.

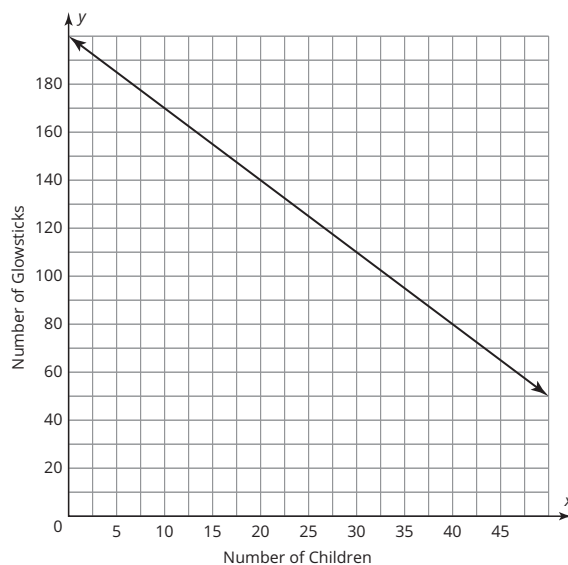
1. Greg is training for a mountain bike race. He leaves his car at the beginning of a trail and proceeds to bike 8 miles away and then comes back the same way to his car. If he bikes at a constant rate, the function graphed models the distance he is away from his car after x minutes.



2. A local television company determines that the revenue it gets from running ads doubles each year. The function graphed models the revenue from advertising after x years.



3. The Redwood Heights Women's Club is hosting a summer nighttime party in the park. They are handing out glow sticks to all the children who attend. They start with 200 glow sticks and each child receives 3 glow sticks. The function graphed models the number of glow sticks they have left after x children have entered.



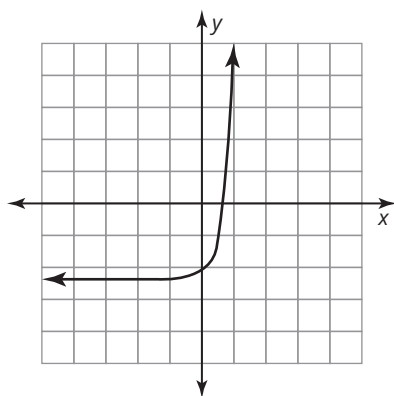
Stretch

Write an equation and sketch a graph that has a minimum in Quadrant IV, is continuous, and is a linear absolute value function.

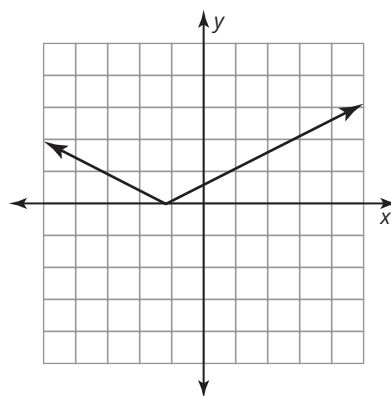
Review

1. Determine whether each graph represents an increasing function, a decreasing function, a constant function, or a combination of increasing and decreasing functions.

a.



b.



2. Solve each equation.

a. $-6 + 4x = 22$

b. $68 = -7 - 15b$

3. Evaluate each expression.

a. $x^2 + 5x - 19$ for $x = -4$

b. $(3 + y)^2 + 4y$ for $y = -5$