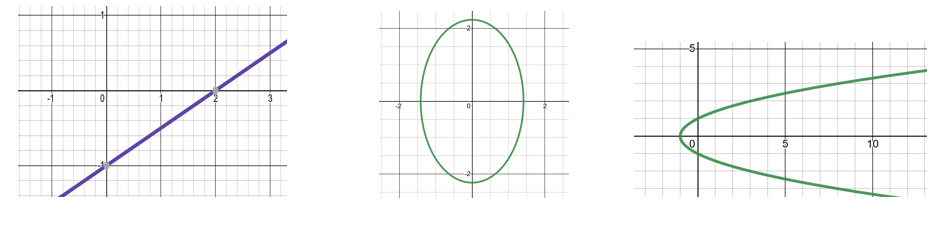
# Determine if the Relation is a Function

c)



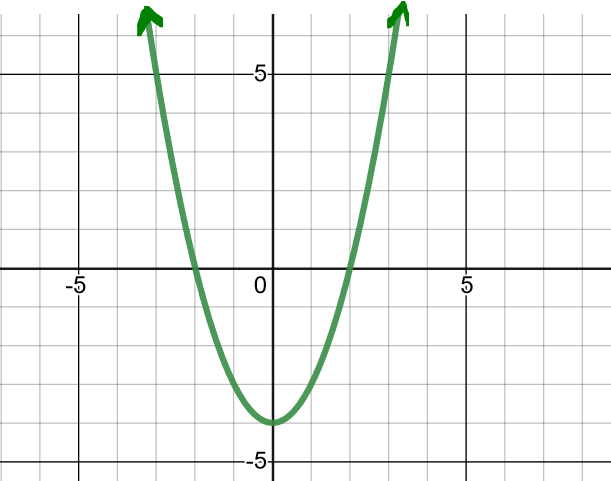
# Interpret a Function in Context

The table shows the chances (as a percent) of an adult surviving to various ages after reaching 60 years old in a particular country. One model that fits the data is the function

| Age | 70 | 80 | 90 | 100 |
| --- | --- | --- | --- | --- |
| Chance of Survival | 85 | 58 | 24 | 2.7 |

What do the variables and represent? Use the model to evaluate and interpret its meaning in a sentence. How does it compare to the actual value from the data set?

# Find the Domain/Range, Intercepts, and Interval(s) Where the Function Increases/Decreases, and Extrema.



Is the graph symmetrical across the x-axis, y-axis, or origin?

Is the function even, odd, or neither?

# Write a linear equation

a) A company that manufactures bicycles has a fixed cost of $100,000. It costs $100 to produce each bicycle. The total cost for the company is the sum of its fixed cost and variable costs. Write the total cost, *C,* as a function of the number of bicycles produce, *x*. Then find and interpret *C(90).*

# Evaluate the Piecewise Function



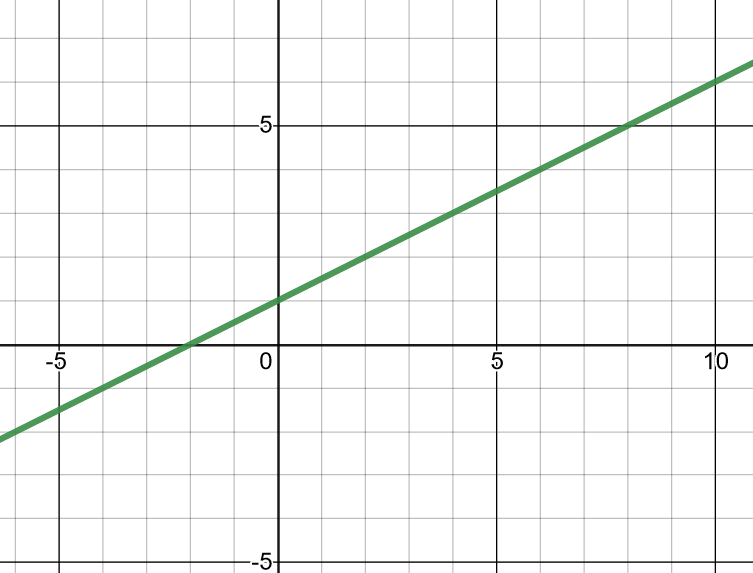
a) *f(-3)* b) *f(0)* c) *f(4)*

# Find the Equation of the Line

a) Parallel to the line that passes through the point

b) Perpendicular to the line that passes through the point

c) Whose graph follows:



d. Parallel to the line with a slope of 0 going through the point (4, -7).

# Find the Average Rate of Change

The age (in years) and expected length (in inches) of certain species of fish is modeled by the function: ; find the average rate of change in expected length between a fish at 10 and 15 years. Include units. Interpret your answer in a sentence.

# Construct and Simplify the Difference Quotient

a) b)

# Find the Domain of the Function

a) c.

# Compose the Functions

Let and



a) Find b) Find c) Find

# Decompose the Function so . Report f(x) and g(x).

a)

# Find the Inverse for the 1:1 Function and its domain

a) b) 