

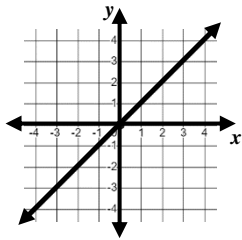
**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form A**

## We Do Together

1. Use the graph to find the y-intercept, direction, and slope of each linear function.

$$f(x) = x$$

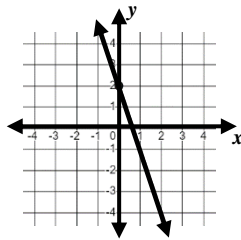


y-intercept = **0**

**Increasing** or Decreasing  
or Neither

Slope = **1**

$$g(x) = -3x + 2$$

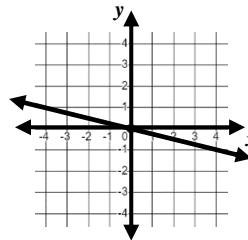


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

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

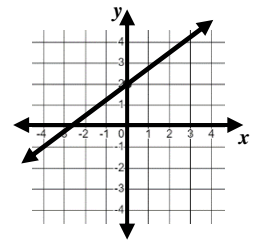


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = \frac{3}{4}x + 2$$



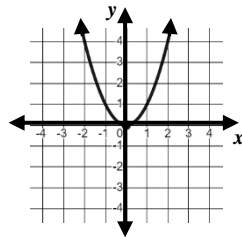
y-intercept =

Increasing or Decreasing  
or Neither

Slope =

2. Use the graph to find the key features of each function.

$$k(x) = x^2$$



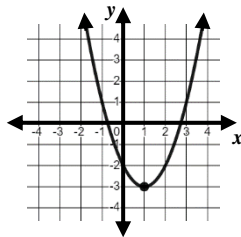
Vertex = **( 0 , 0 )**

**Opens up** or Opens down

Leading Coefficient = **1**

Wider or Narrower  
or **No Change**

$$p(x) = (x - 1)^2 - 3$$



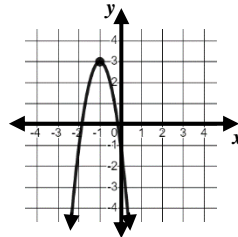
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$q(x) = -4(x + 1)^2 + 3$$



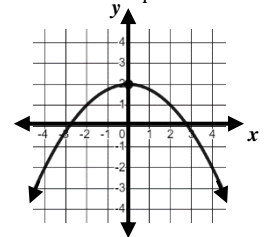
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$t(x) = -\frac{1}{4}x^2 + 2$$



Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

3. **Reflect:** What do you notice about key features of each graph and its equation?

**You Do Together:** Use what you noticed in problems 1 and 2 to identify key features of each function.

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

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$g(x) = \frac{2}{3}x + 1$$

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = -3(x + 1)^2 + 4$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$k(x) = -\frac{1}{3}x^2 + 3$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form A (Continued)**

**You Do Together:** Identify each key feature and sketch each function.

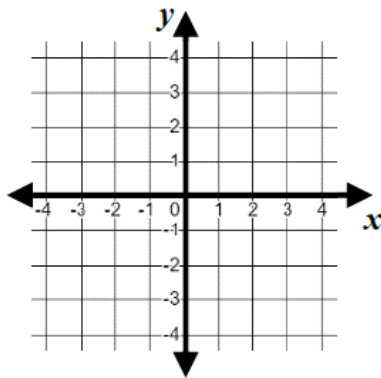
**5. Linear Functions:**

$$p(x) = -2x - 3$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =

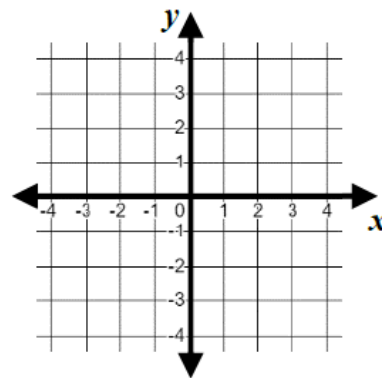


$$q(x) = \frac{2}{3}x - 1$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =



**6. Non-Linear Functions:**

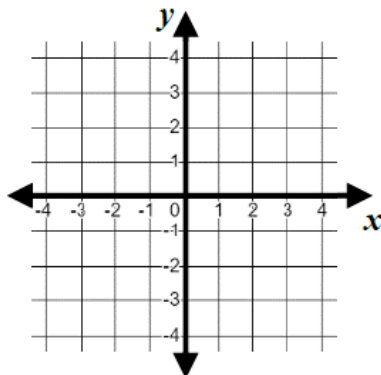
$$r(x) = -4(x + 1)^2 - 3$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change



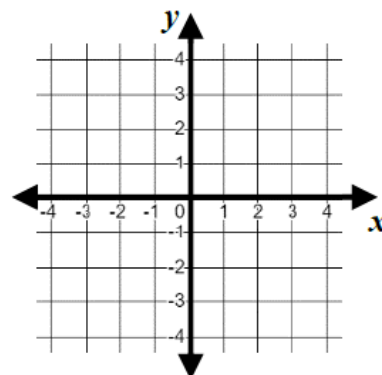
$$t(x) = \frac{2}{3}x^2 + 4$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change



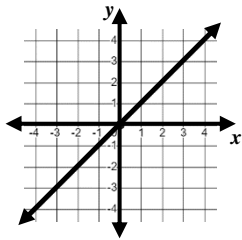
**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form B**

## We Do Together

1. Use the graph to find the y-intercept, direction, and slope of each linear function.

$$f(x) = x$$

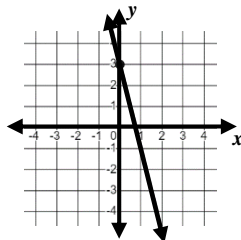


y-intercept = **0**

**Increasing** or Decreasing  
or Neither

Slope = **1**

$$g(x) = -4x + 3$$

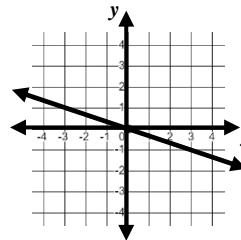


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$h(x) = -\frac{1}{3}x$$

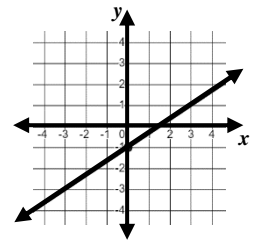


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = \frac{2}{3}x - 1$$



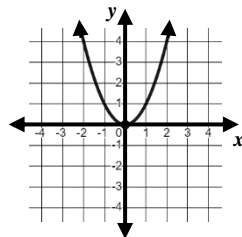
y-intercept =

Increasing or Decreasing  
or Neither

Slope =

2. Use the graph to find the key features of each function.

$$k(x) = x^2$$



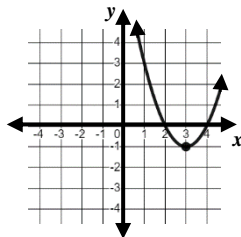
Vertex = **(0, 0)**

**Opens up** or Opens down

Leading Coefficient = **1**

Wider or Narrower  
or **No Change**

$$p(x) = (x - 3)^2 - 1$$



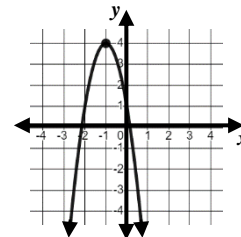
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$q(x) = -3(x + 1)^2 + 4$$



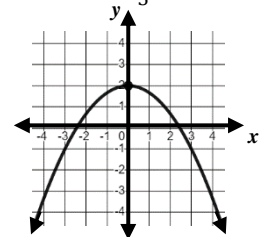
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$t(x) = -\frac{1}{3}x^2 + 2$$



Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

3. **Reflect:** What do you notice about key features of each graph and its equation?

**You Do Together:** Use what you noticed in problems 1 and 2 to identify key features of each function.

4.  $f(x) = 3x - 4$

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$g(x) = \frac{3}{4}x + 2$$

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = 3(x - 1)^2 + 2$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$k(x) = -\frac{1}{5}x^2 - 3$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form B (Continued)**

**You Do Together:** Identify each key feature and sketch each function.

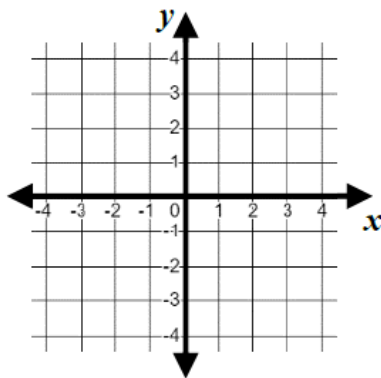
**5. Linear Functions:**

$$p(x) = -4x - 3$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =

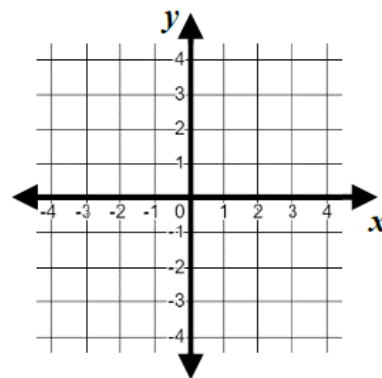


$$q(x) = \frac{4}{3}x - 2$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =



**6. Non-Linear Functions:**

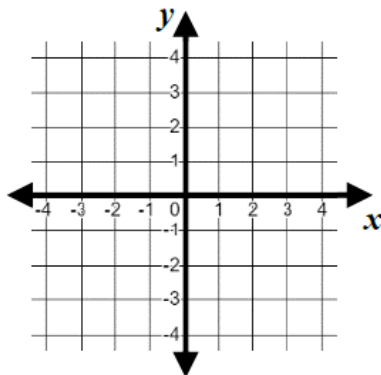
$$r(x) = -3(x - 1)^2 + 2$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change



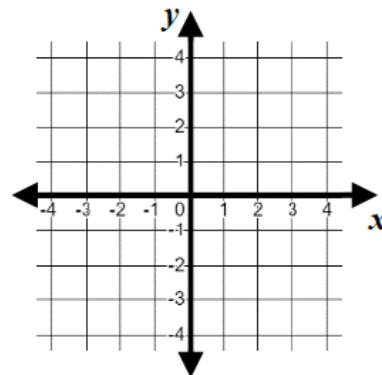
$$t(x) = \frac{1}{5}x^2 - 3$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change



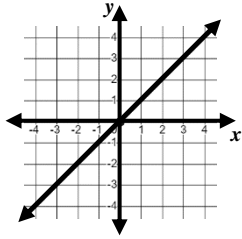
**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form C**

## We Do Together

1. Use the graph to find the y-intercept, direction, and slope of each linear function.

$$f(x) = x$$

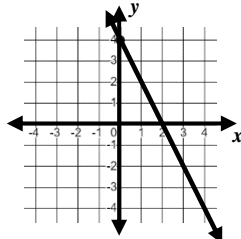


y-intercept = **0**

**Increasing** or Decreasing  
or Neither

Slope = **1**

$$g(x) = -2x + 4$$

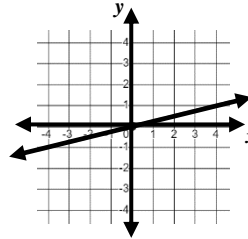


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$h(x) = \frac{1}{4}x$$

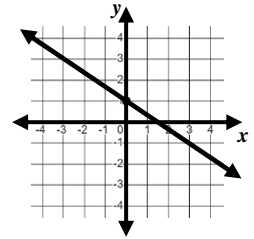


y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = -\frac{2}{3}x + 1$$



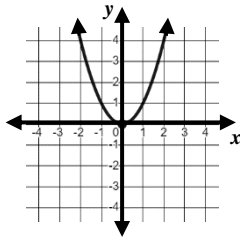
y-intercept =

Increasing or Decreasing  
or Neither

Slope =

2. Use the graph to find the key features of each function.

$$k(x) = x^2$$



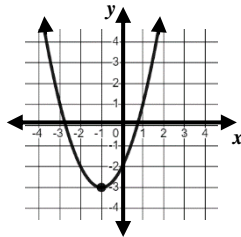
Vertex = **( 0 , 0 )**

**Opens up** or Opens down

Leading Coefficient = **1**

Wider or Narrower  
or **No Change**

$$p(x) = (x + 1)^2 - 3$$



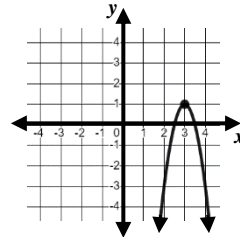
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$q(x) = -4(x - 3)^2 + 1$$



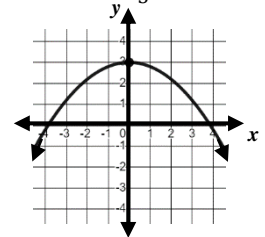
Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$t(x) = -\frac{1}{5}x^2 + 3$$



Vertex = (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

3. **Reflect:** What do you notice about key features of each graph and its equation?

**You Do Together:** Use what you noticed in problems 1 and 2 to identify key features of each function.

4.  $f(x) = -2x - 3$

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$g(x) = \frac{2}{3}x - 1$$

y-intercept =

Increasing or Decreasing  
or Neither

Slope =

$$j(x) = -4(x + 1)^2 - 3$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

$$k(x) = \frac{1}{3}x^2 - 4$$

Vertex: (  ,  )

Opens up or Opens down

Leading Coefficient =

Wider or Narrower  
or No Change

**Learning Target:** I will identify the graph of linear and non-linear functions.

**Form C (Continued)**

**You Do Together:** Identify each key feature and sketch each function.

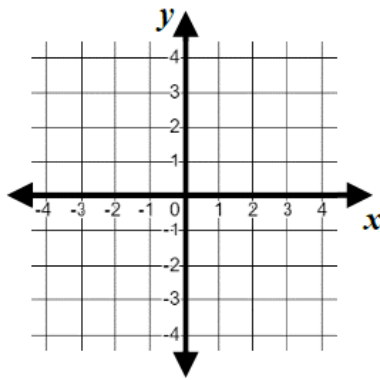
**5. Linear Functions:**

$$p(x) = -3x - 2$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =

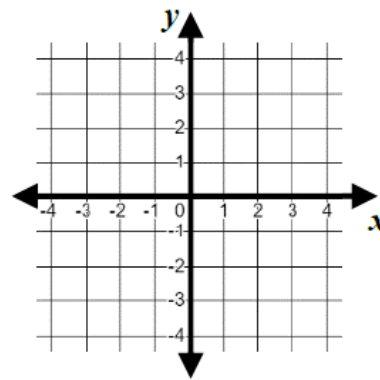


$$q(x) = \frac{1}{3}x + 2$$

y-intercept =

Increasing *or* Decreasing  
*or* Neither

Slope =



**6. Non-Linear Functions:**

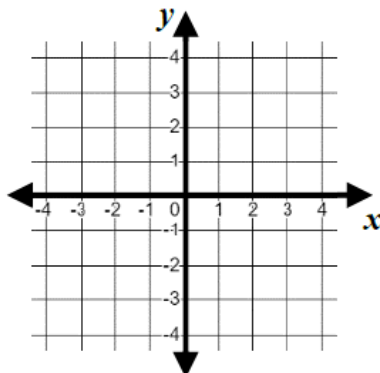
$$r(x) = 3(x - 1)^2 - 4$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change



$$t(x) = -\frac{1}{3}x^2 + 4$$

Vertex: ( , )

Opens up *or* Opens down

Leading Coefficient =

Wider *or* Narrower  
*or* No Change

