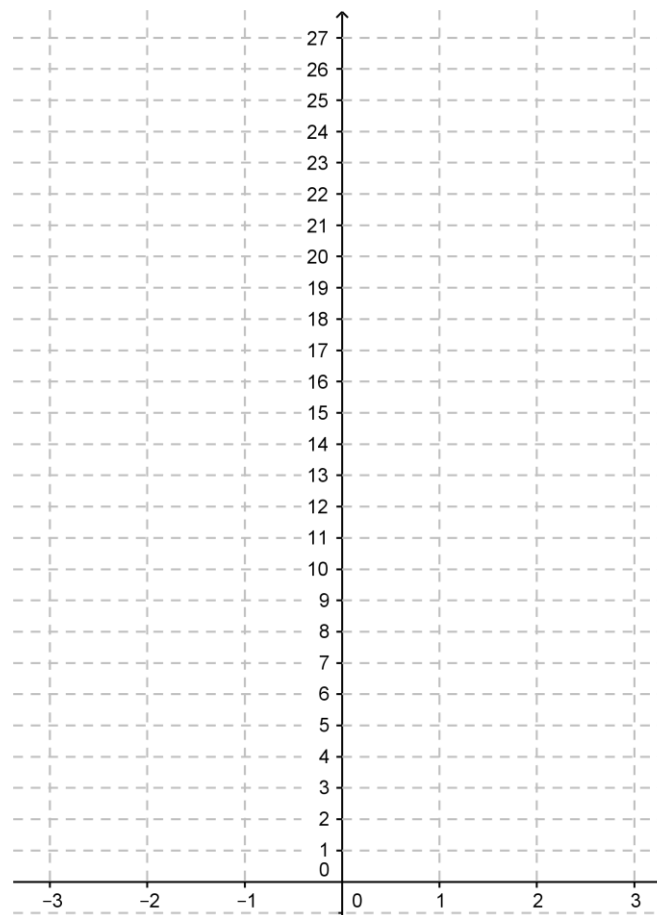


Set 1

| x | $f(x) = x^2$ | (x, y) |
|-----|-----------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = 2x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $h(x) = 3x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $p(x) = 0.5x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

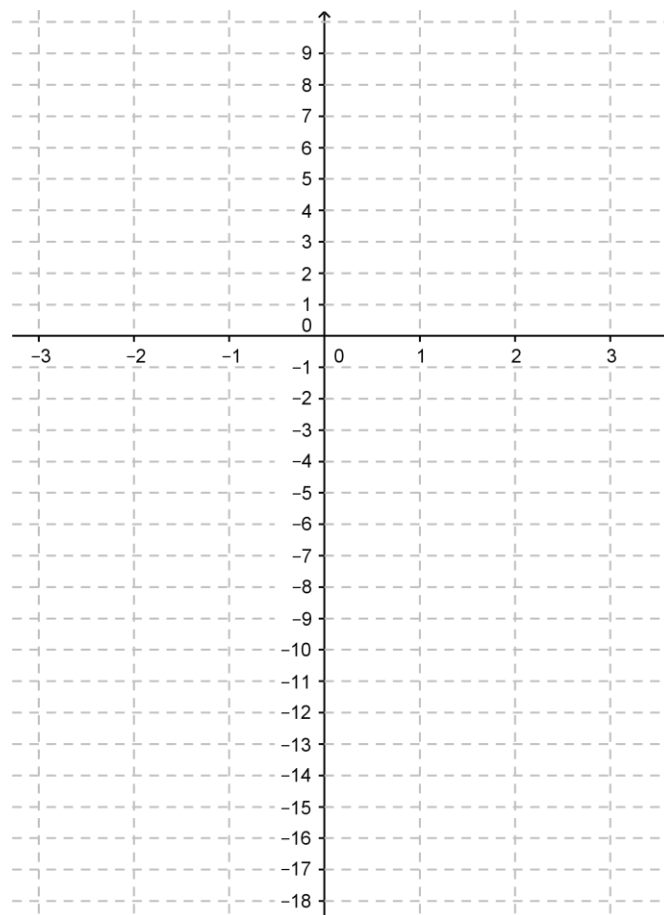


3. By considering the graph of $f(x) = x^2$ what effect does “ a ” have on $g(x) = af(x) = ax^2$?

Set 2

| x | $f(x) = x^2$ | (x, y) |
|-----|------------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = -x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $h(x) = -2x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $p(x) = -0.5x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

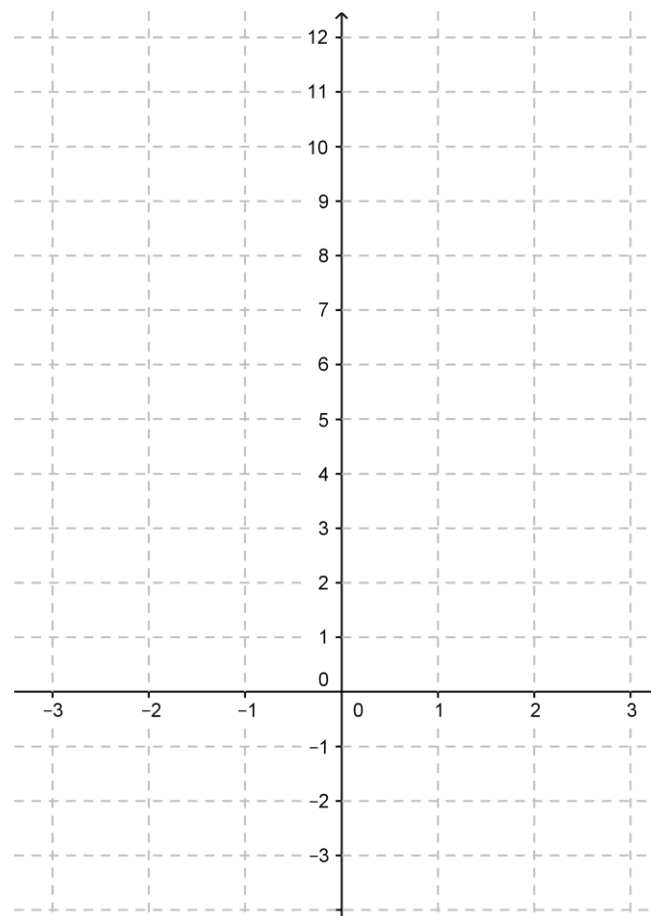


3. By considering the graph of $f(x) = x^2$ what effect does “ a ” have on $g(x) = af(x) = ax^2$?

Set 3

| x | $f(x) = x^2$ | (x, y) |
|-----|------------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = x^2 + 1$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $h(x) = x^2 + 3$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $p(x) = x^2 - 4$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

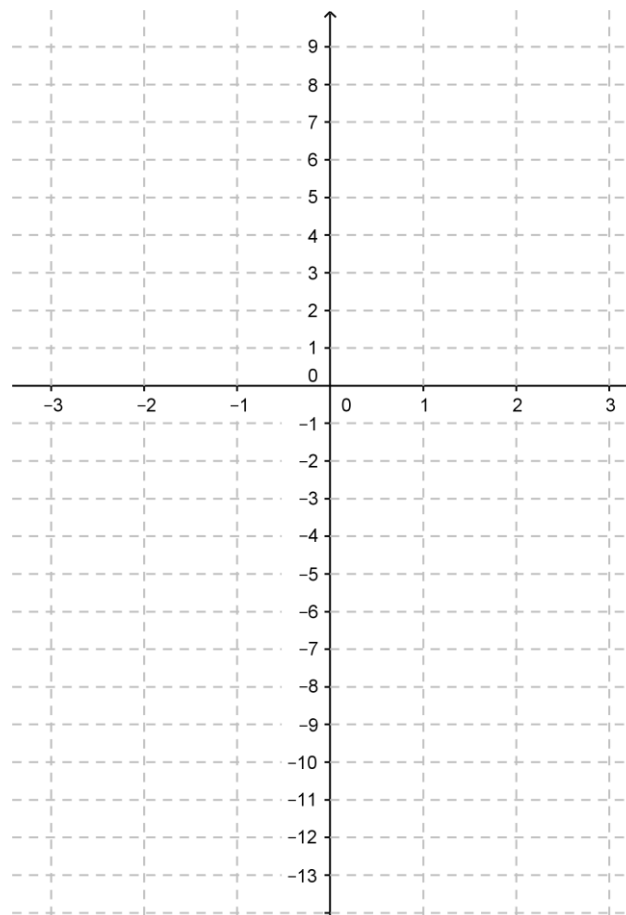


3. By considering the graph of $f(x) = x^2$ what effect does “ c ” have on $g(x) = f(x) + c = x^2 + c$?

Set 4

| x | $f(x) = x^2$ | (x, y) |
|-----|-------------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = -x^2$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $h(x) = -x^2 + 3$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $p(x) = -x^2 - 4$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

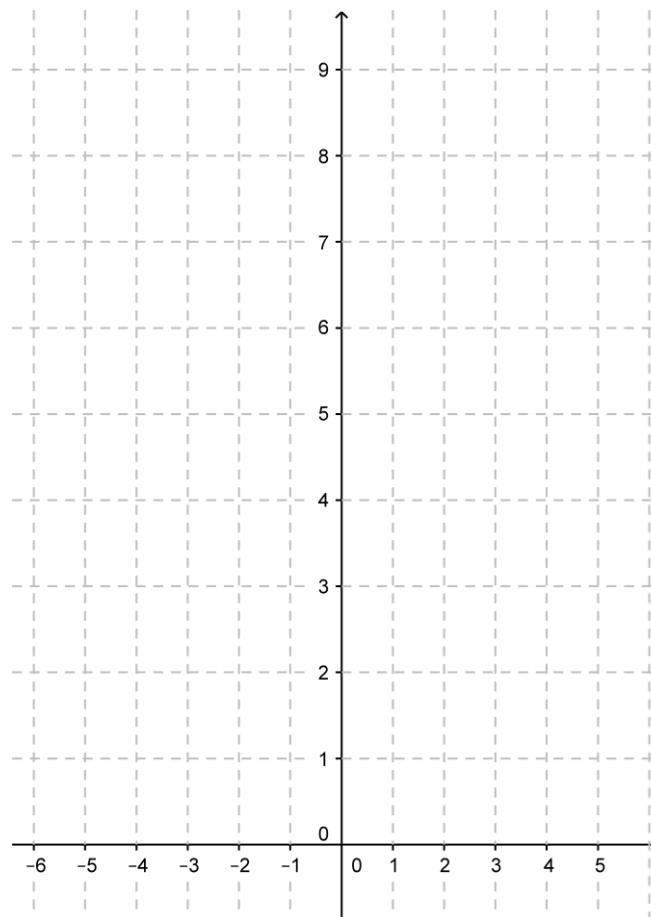


3. By considering the graph of $f(x) = x^2$ what effect do “ a ” and “ c ” have on $g(x) = af(x) + c = ax^2 + c$?

Set 5

| x | $f(x) = x^2$ | (x, y) |
|-----|--------------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = (x + 1)^2$ | (x, y) |
| -4 | | |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| x | $h(x) = (x + 2)^2$ | (x, y) |
| -5 | | |
| -4 | | |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| x | $p(x) = (x - 3)^2$ | (x, y) |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

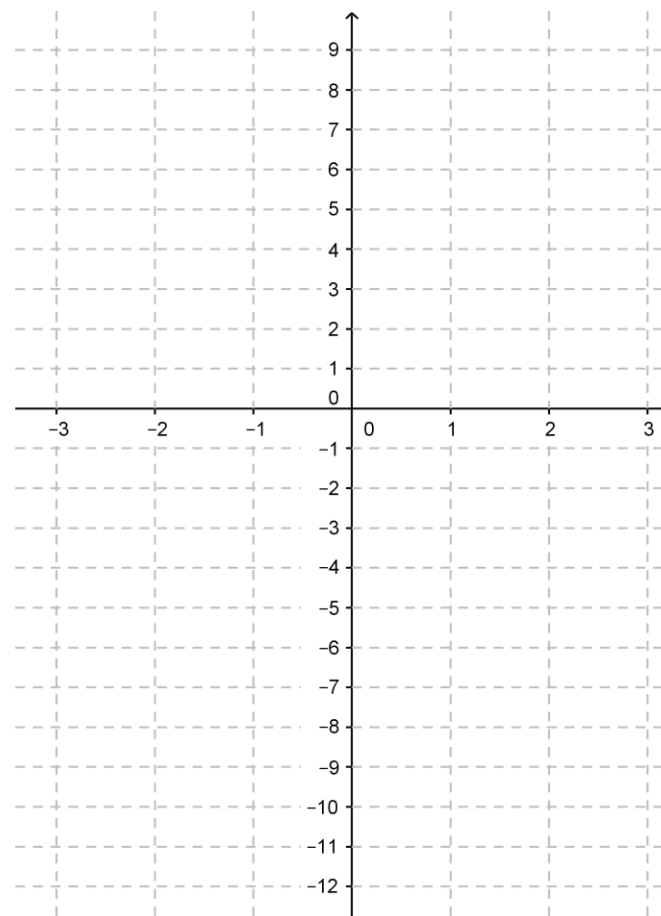


3. By considering the graph of $f(x) = x^2$ what effect does “a” have on $g(x) = f(x + a) = (x + a)^2$?

Set 6

| x | $f(x) = x^2$ | (x, y) |
|-----|-------------------------|----------|
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $g(x) = (x - 1)(x + 1)$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $h(x) = (x - 2)(x + 2)$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| x | $p(x) = (x - 3)(x + 3)$ | (x, y) |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |

1. Fill in the tables for the set you are completing.
2. Plot the graphs of the given functions using different colours for each function. Label your graphs clearly.

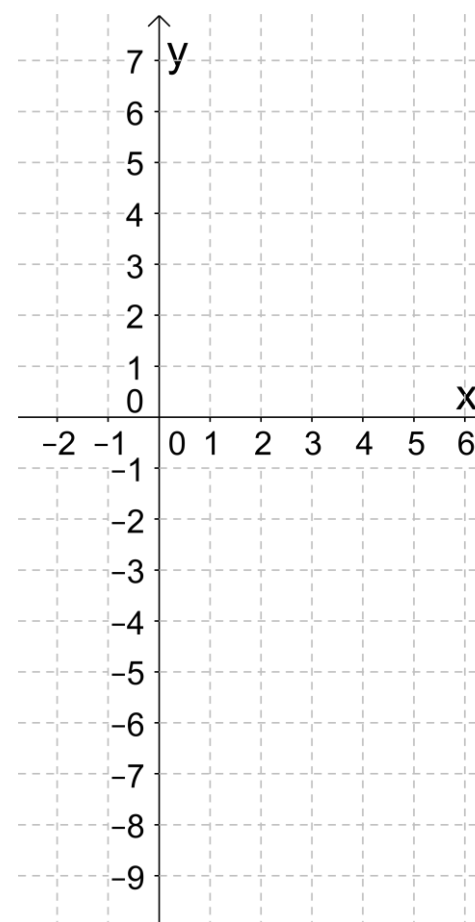


Different Forms of a Quadratic Activity 1

| x | $y = x^2 - 4x - 5$ | (x, y) |
|-----|--------------------|----------|
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

| x | $y = (x - 1)(x + 1)$ | (x, y) |
|-----|----------------------|----------|
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

1. Fill in the tables opposite.
2. Plot the points and draw the graph for each of the functions in the table.



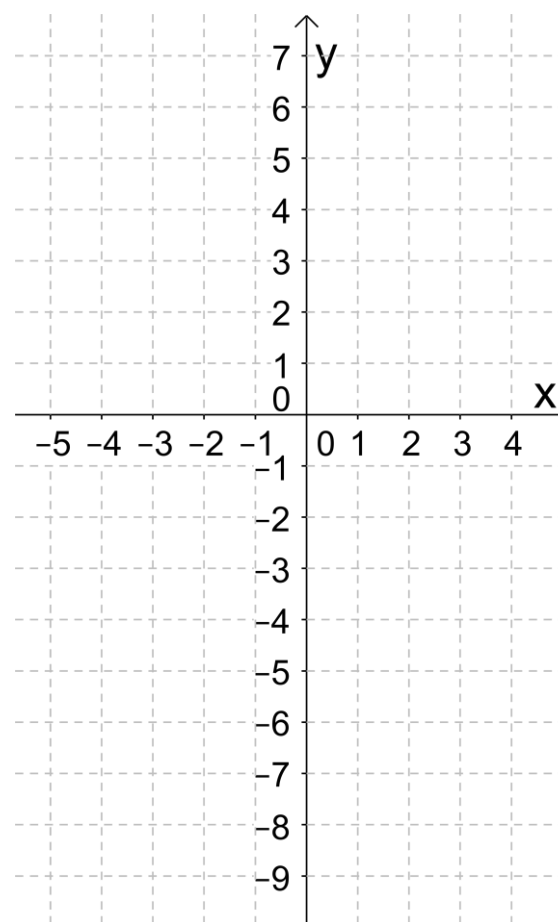
3. What do you notice about the graphs of the two functions you have plotted in this activity?
4. What items of information from each of the functions can help us if sketching the graph of a function?

Different Forms of a Quadratic Activity 2

| x | $y = x^2 - 9$ | (x, y) |
|-----|---------------|----------|
| -4 | | |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

| x | $y = (x - 3)(x + 3)$ | (x, y) |
|-----|----------------------|----------|
| -4 | | |
| -3 | | |
| -2 | | |
| -1 | | |
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

1. Fill in the tables opposite.
2. Plot the points and draw the graph for each of the functions in the table.



3. What do you notice about the graphs of the two functions you have plotted in this activity?
4. What items of information from each of the functions can help us if sketching the graph of a function?