

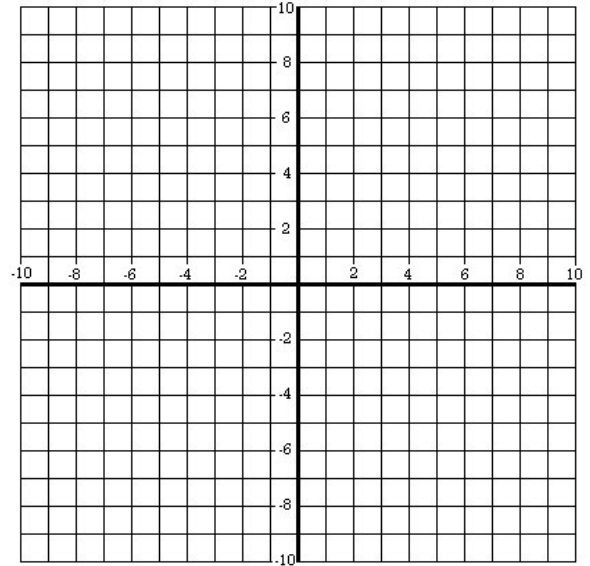
Algebra 1 AIR Questions for CH 9

1 – Consider the two functions

$$f(x) = x^2 + 2x$$

$$g(x) = -x^2 - 2x$$

- Graph both functions
- Describe how the graph of $f(x)$ can be transformed to become the graph of $g(x)$

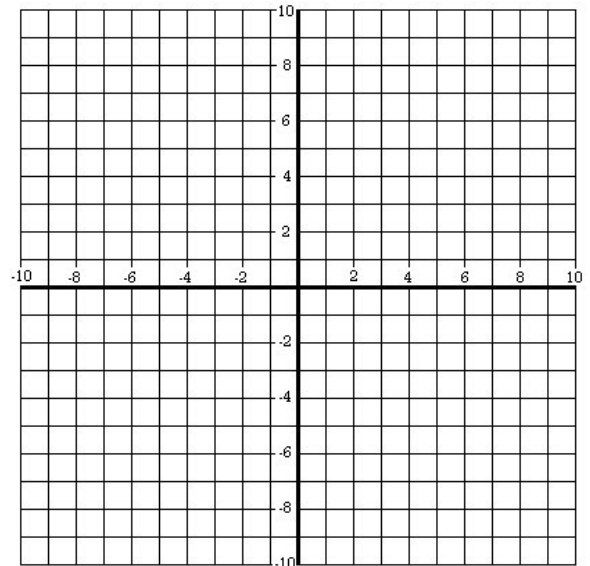


2 – Consider the two functions

$$f(x) = x^2 + x + 1$$

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

- Graph both functions
- Describe how the graph of $f(x)$ can be transformed to become the graph of $g(x)$

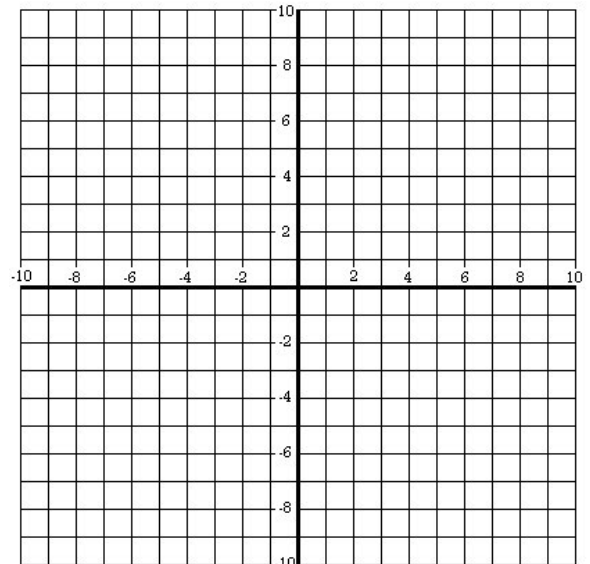


3 – Consider the two functions

$$f(x) = x(x - 2)$$

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

- Graph both functions
- Describe how the graph of $f(x)$ can be transformed to become the graph of $g(x)$



Solve the following:

4 $x^2 - 4x = 21$

5 $x^2 - 7x = -6$

6 $x^2 + 20 = -9x$

7 $2x^2 - 3x = 2$

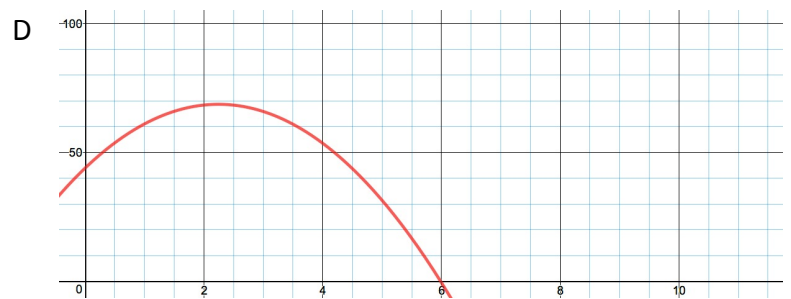
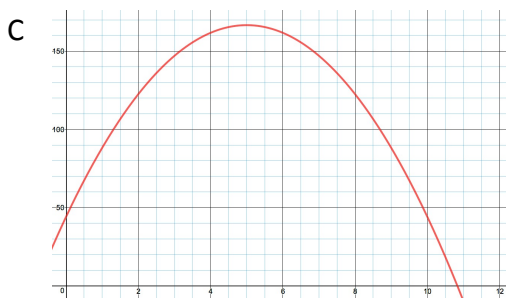
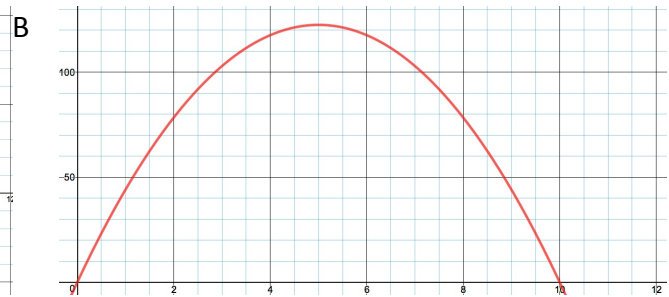
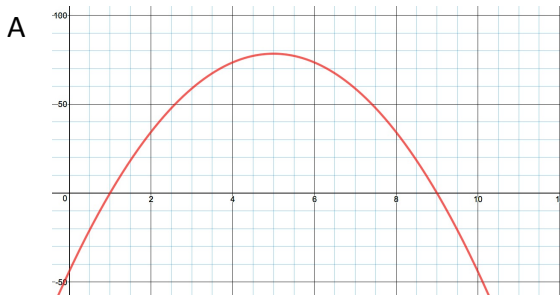
8 $x^2 + (5/2)x = -1$

9 $x^3 = -3x^2 - 2x$

10 $x^4 + 3x^3 - 10x^2 = 0$

13 – A football is punted through the air off the top of the school and its height above the ground is modeled by the function $h(t) = -4.9t^2 + 49t + 44.1$ where t is measured in seconds and $h(t)$ is measured in meters.

- What height is the ball when it is kicked?
- What is the height of the ball at time $t = 3$?
- Which of the following shows the graph of $h(t)$?



- What time does the ball land on the ground?
- What is the maximum height reached by the ball?
- What is the average rate of change from time $t = 0$ to $t = 1$?
- What is the average rate of change from time $t = 4$ to $t = 8$?