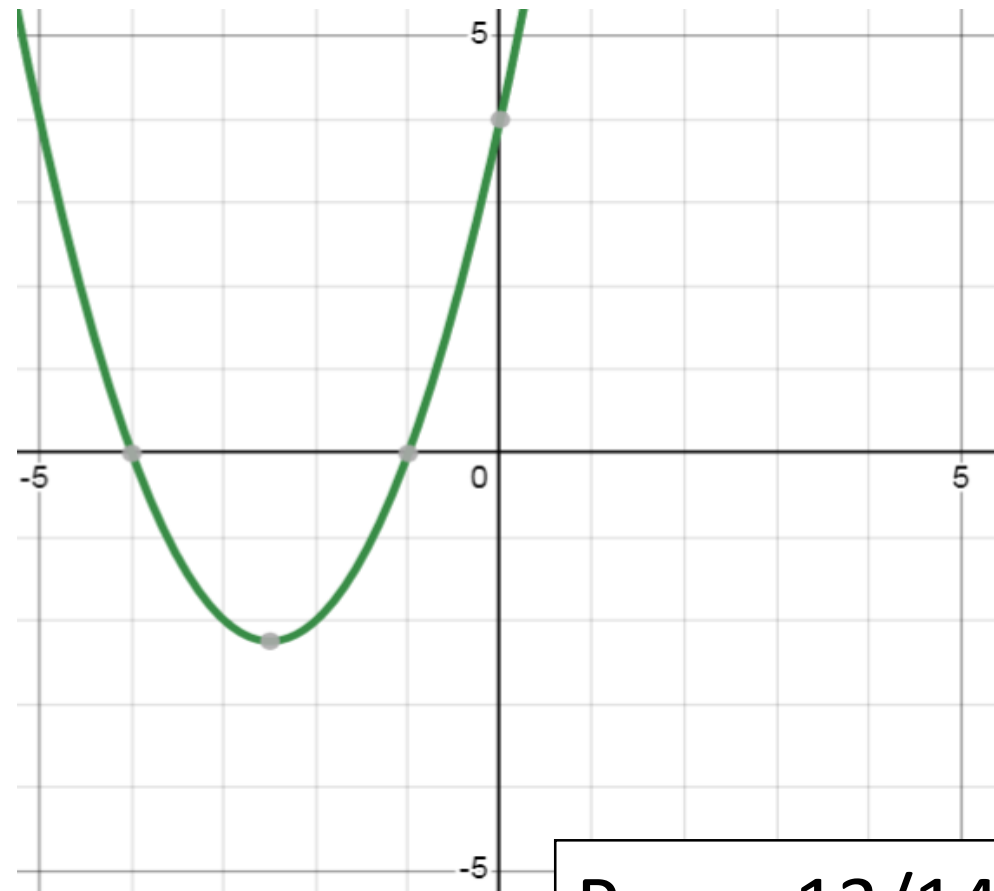


Activator

Graph the polynomial $f(x) = (x + 1)(x + 4)$

Is the vertex a minimum or maximum?

x	f(x)
-4	0
-3	-2
-2	-2
-1	0



Minimum

Why? Vertex is at the bottom of the graph.

Today's Objective

Unit 7

Lesson 4

Students will be able to graph quadratics (polynomials).





Today's New Vocab (1 of 3)

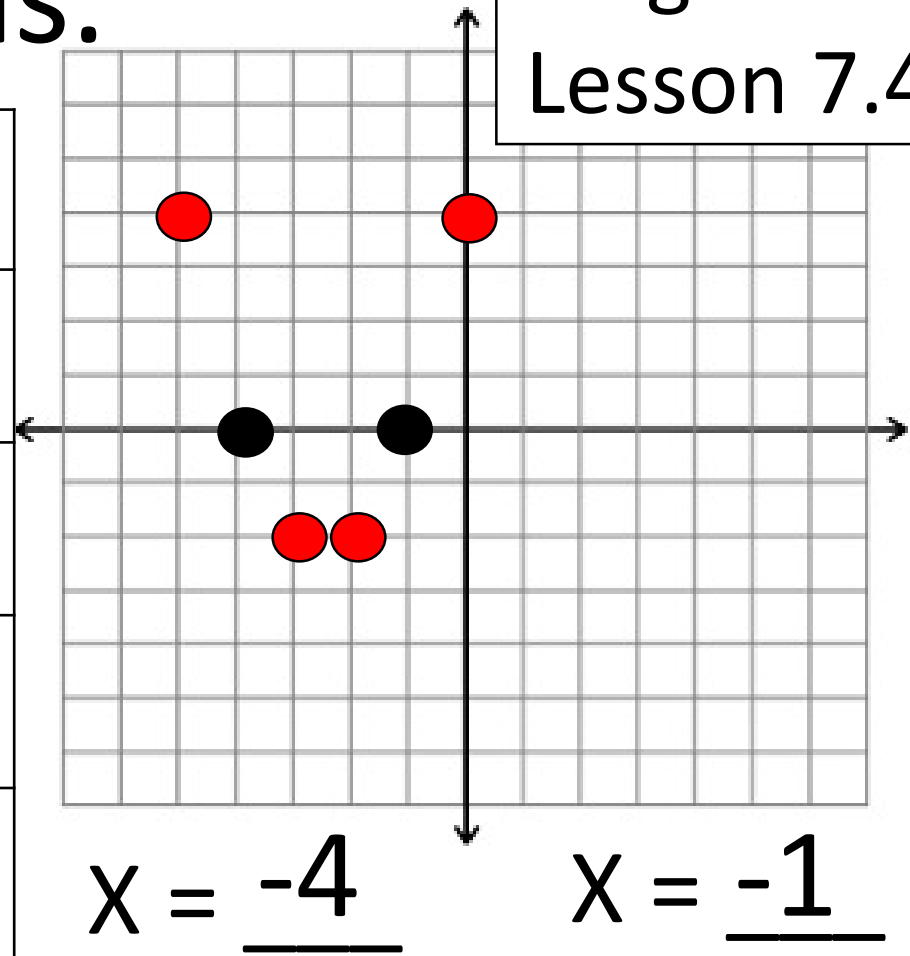
Graph the polynomial $f(x) = x^2 + 5x + 4$

Write and box the solutions.

Page #13
Lesson 7.4

Can you get the factors from the graph? **Yes** How?
Change the signs.

x	f(x)
-4	0
-3	-2
-2	-2
-1	0



$$f(x) = (x + 1)(x + 4)$$

Today's New Vocab (2 of 3)

Solve for x when $x^2 + 5x + 4 = 0$?

$$(x + 1)(x + 4) = 0$$

Set both parentheses
equal to zero.

$$(x + 1) = 0 \text{ Factor}$$

$$(x + 4) = 0 \text{ Factor}$$

$$x + 1 = 0$$

$$x + 4 = 0$$

$$-1 \quad -1$$

$$-4 \quad -4$$

$$x = -1 \text{ Solution}$$

$$x = -4 \text{ Solution}$$

This graph will cross the x -axis at $(-4,0)$ and $(-1,0)$

Page #13
Lesson 7.4

Today's New Vocab (3 of 3)

Double Check the zero's and roots.

You can substitute either solution.

$$x^2 + 5x + 4 = y \text{ and } (x + 1)(x + 4) = y$$

$$(-4)^2 + 5(-4) + 4 = (0) \quad ((-1) + 1)(x + 4) = (0)$$

$$16 - 20 + 4 = 0 \quad (-1 + 1)(x + 4) = 0$$

$$0 = 0 \quad (0)(x + 4) = 0$$

$x = -1$ and $x = -4$ are solutions. $0 = 0$

Group Work Questions

Pages 15-16
Lesson 7.4

Directions: All groups, please do all of the questions. Use your notes from last class to help you. [Ask 2 people before you ask me.]

Last time, we did Lesson 7.4 Notes.

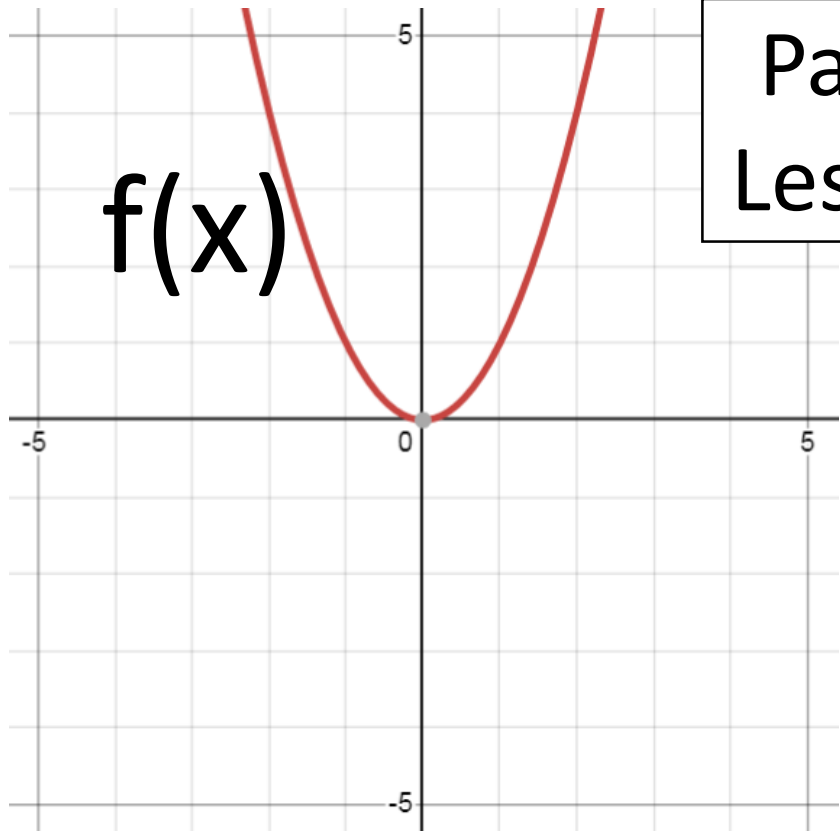
2nd Stop @ 9:03 3rd Stop @ 10:06 8th Stop @ 2:25

*One person from each group will present one question.

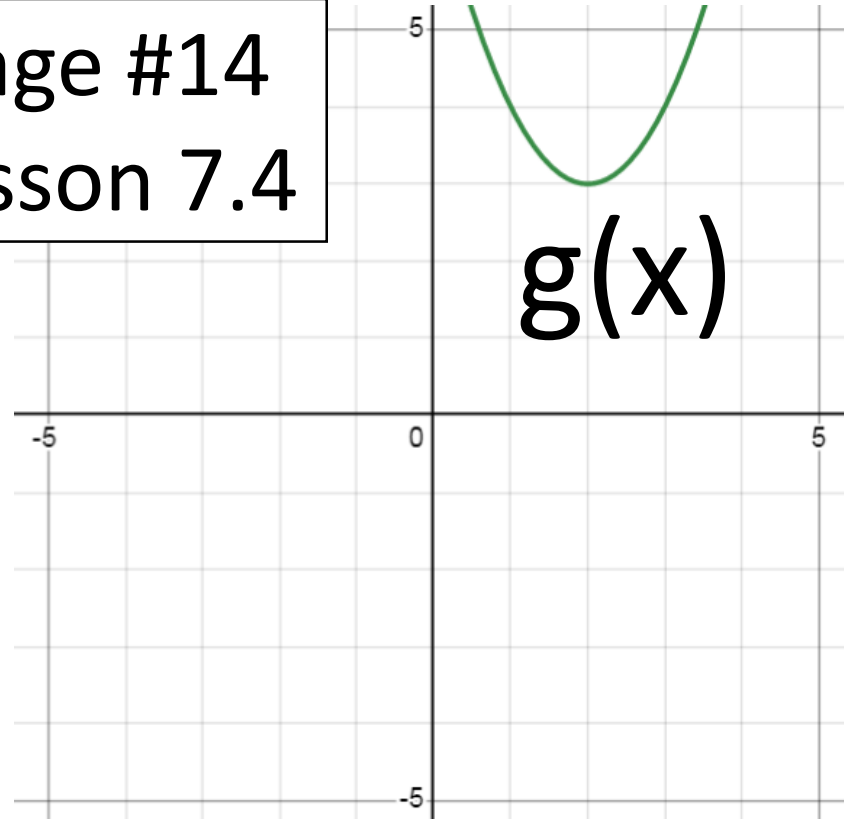
Work Period

Compare the graph of $f(x) = x^2$ to the graph of $g(x) = (x - 2)^2 + 3$. Which two directions did the $g(x)$ shift(move)? **2 right and 3 up**

x	$f(x)$
-2	4
0	0
2	4



Page #14
Lesson 7.4



x	$g(x)$
0	7
2	3
4	7

Exit Ticket

What is $f(6) - g(6)$? $36 - 19 = 17$

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

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

$$f(6) = (6)^2$$

$$g(6) = (6 - 2)^2 + 3$$

$$f(6) = 36$$

$$g(6) = (4)^2 + 3$$

Show your work.

$$g(6) = 16 + 3$$

$$g(6) = 19$$