Algebra 1

Raley

Week 6 & 7

May 4 – May 15

Algebra 1 – Weeks 6 & 7 – Raley – Suggested Work Schedule & Due Dates

Start working on the work for weeks 6 & 7. I have provided a schedule that will help you plan how to finish your work on time. This should not take hours each day. There is one thing for you to do each day so that you don't get overwhelmed. Send me a message on Remind if you have questions. I am trying to respond before the end of the day if at all possible.

5/4 – Take Notes on 9-1 & 9-2	5/11 – Start RWS 9-1 to 9-3a
5/5 – Complete SWS 9-1	5/12 – Complete RWS 9-1 to 9-3a
5/6 – Work on completing some OPTIONAL Khan Assignments. They can only help!	5/13 – Work on completing some OPTIONAL Khan assignments. Khan assignments close on 5/15.
5/7 – Take Notes on 9-3	5/14 – Turn in the items that are requested for Weeks 6 & 7 on FOCUS, email, or Remind.
5/8 – Complete PWS 9-3a	5/15 – Check to make sure that you have completed and submitted **ALL** of your work for the entire 9 wks.

Classlink Link : https://launchpad.classlink.com/leonschools

To access my webpage just login to Classlink and then FOCUS. Click on the name of this course (if the course name is blue it has an active website on FOCUS). It will take you straight to my webpage. Units are separate into two week sections. To see notes sheets, video links to notes on YouTube, and reviews click on the resources tab for each section.

My YouTube Channel Link : https://www.youtube.com/channel/UCB2bAn6YNXaV8JsydICQ_kA

To access the videos for each lesson go to my YouTube channel and find the correct video. It will not let me rearrange the order so you will have to match the name on your notes sheet to the name on the video.

Remind Code – Text @sralg20 to 81010 to join the Remind group.

Khan Links – 2nd : https://www.khanacademy.org/join/PD6ZV8JQ
3rd : https://www.khanacademy.org/join/5XZAJ7ZD
4th : https://www.khanacademy.org/join/N8D87HJV
6th : https://www.khanacademy.org/join/96GSVV5X

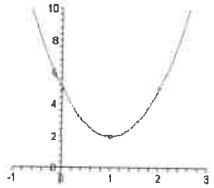
Keep completing your **OPTIONAL** assignments on Khan. They are designed to keep your basic skills strong and provide that boost that you may need at the end of the 9 weeks. Khan assignments close on 5/15.

Continue to turn in your assignments on FOCUS, email, or Remind. I am trying to be flexible.

9-1 & 9-2 Graphing Quadratic Equations

N#____ ___/___/___

What does the graph of a quadratic look like? *It's a parabola!!*



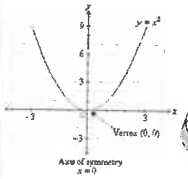
There are 5 steps to graph a parabola!!

How do we know what they look like?

If a is .	If a is .
The parabola opens	The parabola opens

1. Determine the vertex & the axis of symmetry.

$y = ax^2 + bx + c$



EQUATION FOR BOTH!!!!

$$x = \frac{-b}{2a}$$

(x, ___) = vertex

(plug x back into the equation to get the "y" in your ordered pair)

x = "axis of symmetry"

2. Make a table, choose your values for x. (at least 5)
3. Plug in your x values to find the y values.
4. Graph the points and connect them to form parabola.
5. Determine if there is a max or min.

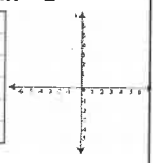
x	(equation)	y	(x, y)

How to determine if the parabola has a max or a min?

If a is positive	If a is negative
The parabola opens **UP**	The parabola opens **DOWN**

Example #1 $y = x^2 + 4x + 2$

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



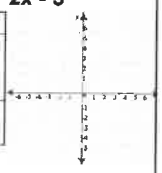
A.O.S. –

Vertex –

Maximum or Minimum –

Example #2 $y = -x^2 + 2x - 3$

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



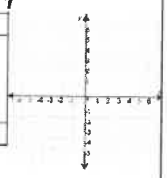
A.O.S. –

Vertex –

Maximum or Minimum –

Example #3 $y = x^2 - 1$

x	$y = x^2 + 0x - 1$	y	(x, y)
-2			
-1			
0			
1			
2			



A.O.S. –

Vertex –

Maximum or Minimum –

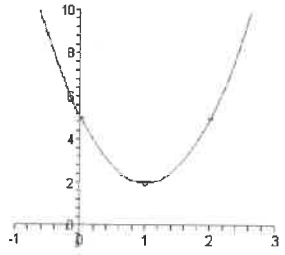
A#_____ ____/____/____

SWS 9-1

9-1 & 9-2 Graphing Quadratic Equations

N#_____ ____/____/____

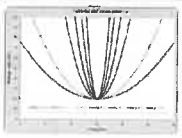
What does the graph of a quadratic look like? *It's a parabola!!*

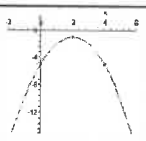


There are 5 steps to graph a parabola!!

How do we know what they look like?

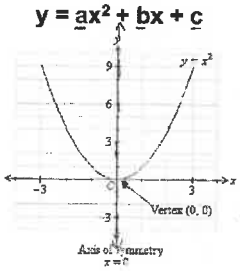
If a is positive.	If a is negative.
The parabola opens	The parabola opens
UP	down





1. Determine the vertex & the axis of symmetry.

$y = ax^2 + bx + c$



EQUATION FOR BOTH!!!!

$$x = \frac{-b}{2a}$$

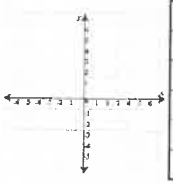
(x, ___) = vertex

(plug x back into the equation to get the "y" in your ordered pair)

* vertical line

x = "axis of symmetry"

2. Make a table, choose your values for x. (at least 5)
3. Plug in your x values to find the y values.
4. Graph the points and connect them to form parabola.
5. Determine if there is a max or min.



x	(equation)	y	(x, y)

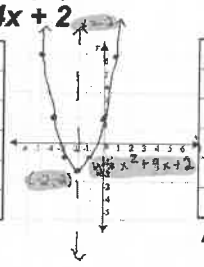
How to determine if the parabola has a max or a min?

* vertex

If a is positive	If a is negative
The parabola opens	The parabola opens
UP	DOWN
Min	Max

Example #1 ∪ $y = x^2 + 4x + 2$ ($a=1$, $b=4$, $c=2$)

x	$y = x^2 + 4x + 2$	y	(x, y)
-3	$(-3)^2+4(-3)+2$	-1	(-3, -1)
-2	$(-2)^2+4(-2)+2$	-2	(-2, -2)
-1	$(-1)^2+4(-1)+2$	-1	(-1, -1)
0	$(0)^2+4(0)+2$	2	(0, 2)
1	$(1)^2+4(1)+2$	7	(1, 7)



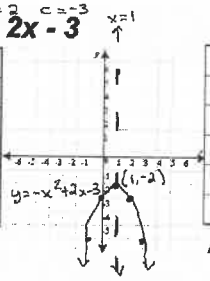
A.O.S. – $x = -2$

Vertex – $x = \frac{-b}{2a}$ $x = \frac{-4}{2(1)}$ $x = \frac{-4}{2}$ $x = -2$ $(-2, -2)$

Maximum or Minimum – $(-2, -2)$

Example #2 ∩ $y = -x^2 + 2x - 3$ ($a=-1$, $b=2$, $c=-3$)

x	$y = -x^2 + 2x - 3$	y	(x, y)
-1	$-1(-1)^2+2(-1)-3$	-6	(-1, -6)
0	$-1(0)^2+2(0)-3$	-3	(0, -3)
1	$-1(1)^2+2(1)-3$	-2	(1, -2)
2	$-1(2)^2+2(2)-3$	-3	(2, -3)
3	$-1(3)^2+2(3)-3$	-6	(3, -6)



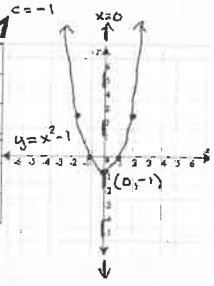
A.O.S. – $x = 1$

Vertex – $\frac{-b}{2a}$ $x = \frac{-2}{2(-1)}$ $x = \frac{-2}{-2}$ $x = 1$ $(1, -2)$

Maximum or Minimum – $(1, -2)$

Example #3 ∪ $y = x^2 - 1$ ($a=1$, $b=0$, $c=-1$)

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



A.O.S. – $x = 0$

Vertex – $x = \frac{-b}{2a}$ $x = \frac{-0}{2(1)}$ $x = 0$ $(0, -1)$

Maximum or Minimum – $(0, -1)$

A#_____ ____/____/____

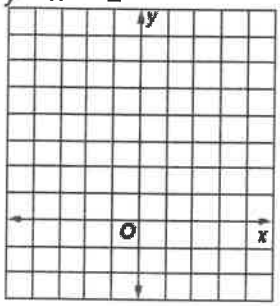
SWS 9-1

NAME _____ DATE _____ PERIOD _____ Assn. # _____

SWS 9-1 Graphing Quadratic Functions

Find the axis of symmetry and the vertex for each function. State the *maximum* or *minimum* value. Graph each function. Be careful with the negative in front of the x on number 3.

1. $y = x^2 + 2$



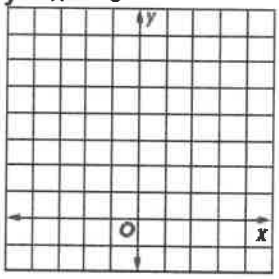
x		y	(x,y)

axis of symmetry _____

vertex _____

min / max (circle one) _____

2. $y = x^2 + 3$



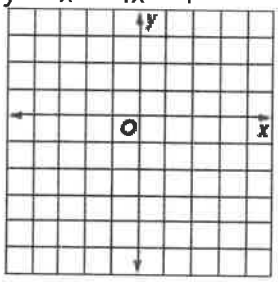
x		y	(x,y)

axis of symmetry _____

vertex _____

min / max (circle one) _____

3. $y = -x^2 - 4x - 4$



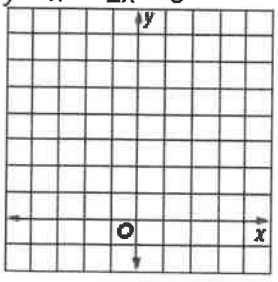
x		y	(x,y)

axis of symmetry _____

vertex _____

min / max (circle one) _____

4. $y = x^2 + 2x + 3$



x		y	(x,y)

axis of symmetry _____

vertex _____

min / max (circle one) _____

N#_____ ____/____/____

9-3 Solving Quadratic Equations by Graphing

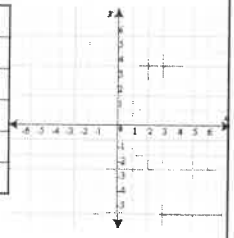
SLG – Students will be able to solve quadratic equations by graphing. They will be able to determine if there is one, two, or no solutions.

A#_____ ____/____/____

PWS 9-3a

Example #1 $\frac{1}{4}x^2 - 1 = 0$

x	$\frac{1}{4}x^2 - 1 = 0$	y	(x, y)
-4			
-2			
0			
2			
4			



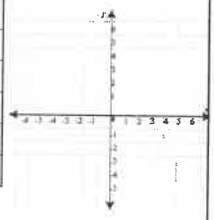
A.O.S. –

Vertex –

Solution(s) –

Example #2 $x^2 + 1 = 0$

x	$x^2 + 1 = 0$	y	(x, y)
-2			
-1			
0			
1			
2			



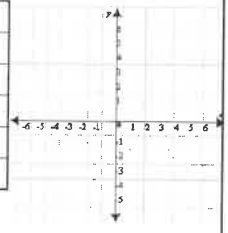
A.O.S. –

Vertex –

Solution(s) –

Example #3 $x^2 = 0$

x	$x^2 = 0$	y	(x, y)
-2			
-1			
0			
1			
2			



A.O.S. –

Vertex –

Solution(s) –

N#_____ ____/____/____

9-3 Solving Quadratic Equations by Graphing

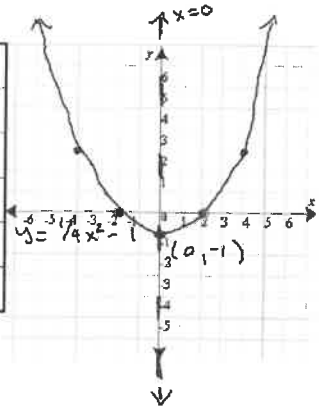
SLG – Students will be able to solve quadratic equations by graphing. They will be able to determine if there is one, two, or no solutions.

A#_____ ____/____/____

PWS 9-3a

Example #1 $a=\frac{1}{4}\ b=0\ c=-1$ ∪ $\frac{1}{4}x^2 - 1 = 0$

x	$\frac{1}{4}x^2 - 1 = 0$	y	(x, y)
-4	$\frac{1}{4}(-4)^2 - 1$	3	(-4, 3)
-2	$\frac{1}{4}(-2)^2 - 1$	0*	(-2, 0)
0	$\frac{1}{4}(0)^2 - 1$	-1	(0, -1)
2	$\frac{1}{4}(2)^2 - 1$	0*	(2, 0)
4	$\frac{1}{4}(4)^2 - 1$	3	(4, 3)



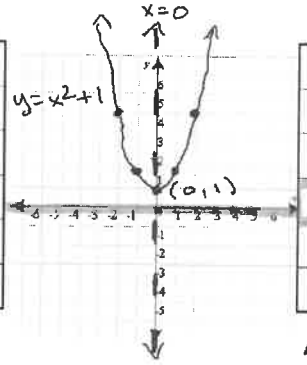
A.O.S. – $x = 0$

Vertex – $x = \frac{-b}{2a}$ $x = \frac{-0}{2(\frac{1}{4})}$ $x = 0$ $(0, -1)$

Solution(s) – $\{-2, 2\}$

Example #2 $a=1\ b=0\ c=1$ ∪ $x^2 + 1 = 0$

x	$x^2 + 1 = 0$	y	(x, y)
-2	$(-2)^2 + 1$	5	(-2, 5)
-1	$(-1)^2 + 1$	2	(-1, 2)
0	$(0)^2 + 1$	1	(0, 1)
1	$(1)^2 + 1$	2	(1, 2)
2	$(2)^2 + 1$	5	(2, 5)



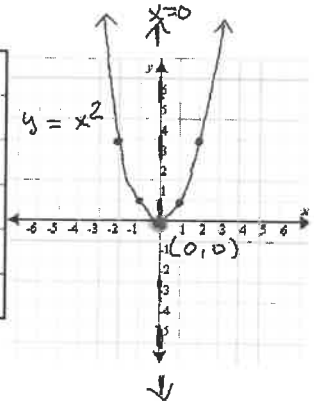
A.O.S. – $x = 0$

Vertex – $x = \frac{-b}{2a}$ $x = \frac{-0}{2(1)}$ $x = 0$ $(0, 1)$

Solution(s) – $\{\ \}$

Example #3 $a=1\ b=0\ c=0$ ∪ $x^2 = 0$

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



A.O.S. – $x = 0$

Vertex – $x = \frac{-b}{2a}$ $x = \frac{-0}{2(1)}$ $x = 0$ $(0, 0)$

Solution(s) – $\{0\}$

NAME _____ DATE _____ PERIOD _____ A# ___

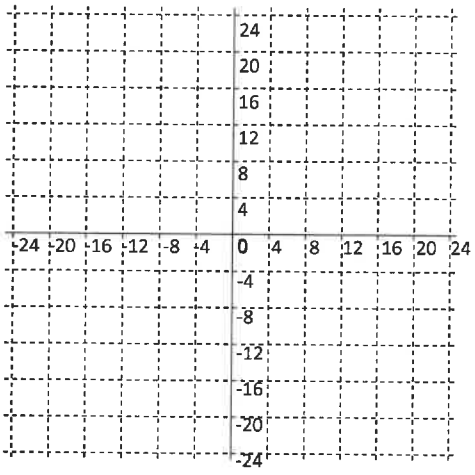
PWS 9-3a Solving Quadratic Equations by Graphing

Find the axis of symmetry and the vertex for each function. Graph each function. Find the zero's.

1. $x^2 + 9 = 0$ _____

{ }

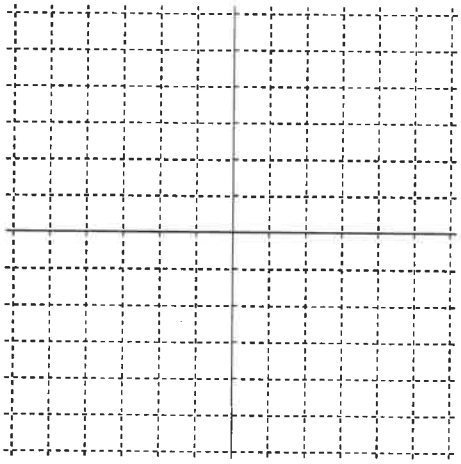
x		y	(x,y)
-4			
-2			
0			
2			
4			



2. $4x^2 = 0$ _____

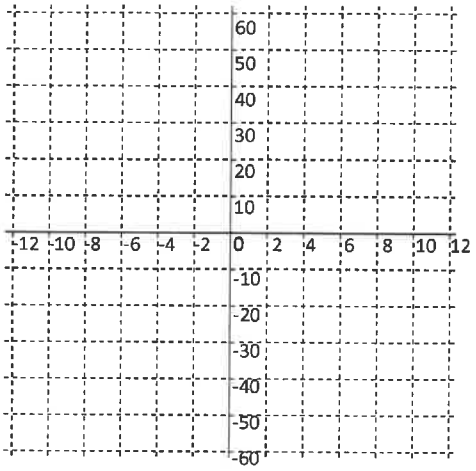
{ 0 }

x		y	(x,y)
-1			
-½			
0			
½			
1			



3. $x^2 - 36 = 0$ _____

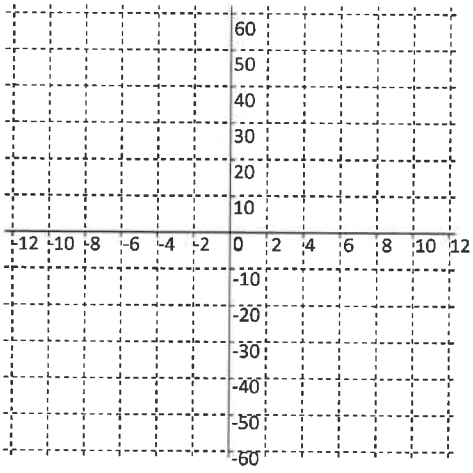
x		y	(x,y)
-6			
-3			
0			
3			
6			



{ -6 , 6 }

4. $2x^2 - 32 = 0$ _____

x		y	(x,y)
-6			
-4			
0			
4			
6			



{ -4 , 4 }

RWS 9-1 to 9-3 a **Quadratic Equations** **Name** _____
Algebra 1 **Date** _____ **Period** ____

Find the axis of symmetry, vertex, and max or min value for each quadratic equation. Then graph each parabola.

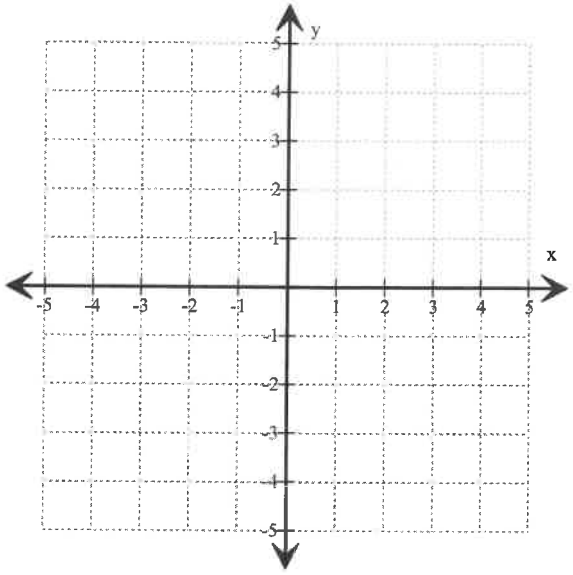
1. $y = -x^2 + 4x - 1$

axis of symmetry _____

vertex _____

min / max (circle one) _____

x		y	(x, y)



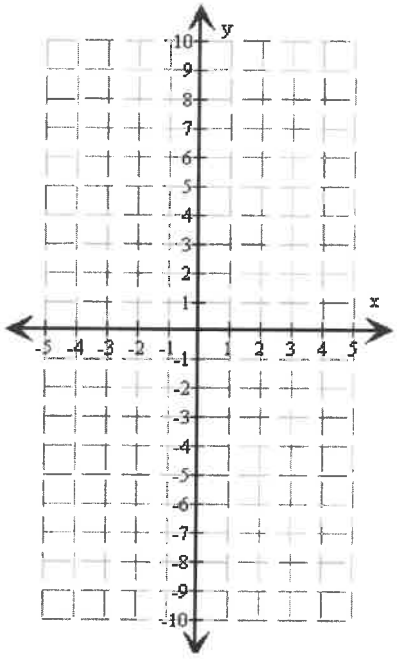
2. $y = 2x^2 + 4x + 1$

axis of symmetry _____

vertex _____

min / max (circle one) _____

x		y	(x, y)



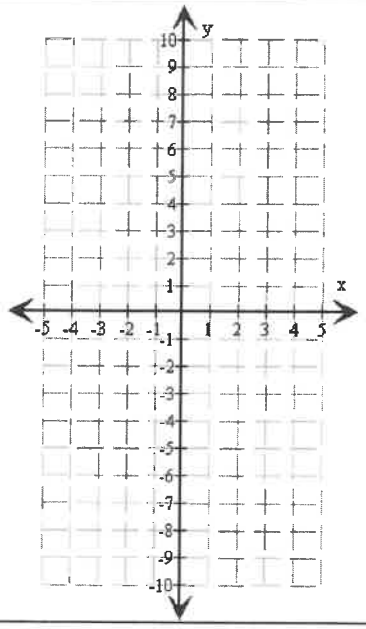
3. $y = 3x^2 - 7$

axis of symmetry _____

vertex _____

min / max (circle one) _____

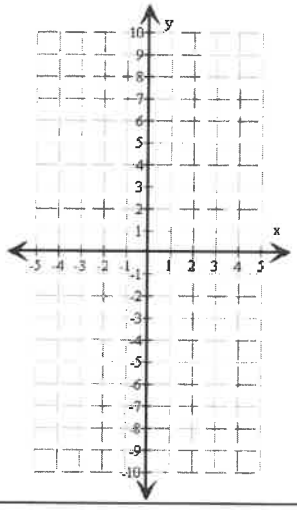
x		y	(x, y)



Find the axis of symmetry and the vertex for each function. Graph each function. Find the zero's.

4. $2x^2 - 8 = 0$ axis of symmetry _____ vertex _____ zero's _____

x		y	(x, y)
-2			
-1			
0			
1			
2			



5. $x^2 + 5 = 0$ axis of symmetry _____ vertex _____ zero's _____

x		y	(x, y)
-2			
-1			
0			
1			
2