

Welcome Back to MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: <u>3/12</u> Topic: <u>4CD Distribution</u>	0 1 2	
Tuesday Date: <u>3/13</u> Topic: <u>9E Factoring Quadratics</u>	0 1 2	
Wednesday Date: <u>3/14</u> Topic: <u>Solving Quadratics WS</u>	0 1 2	
Thursday Date: <u>3/15</u> Topic: <u>18ABC Solving Quadratics WS</u>	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

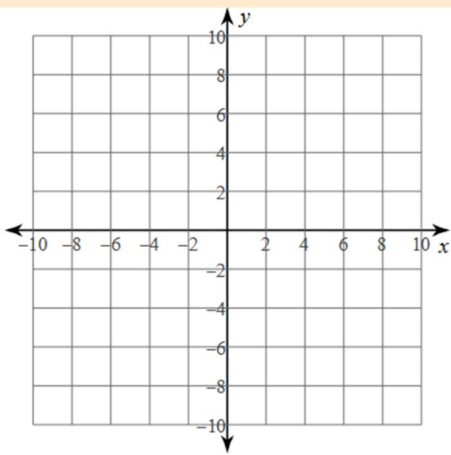
Class Plan:

1. Warm-up

2. Quiz Review Day

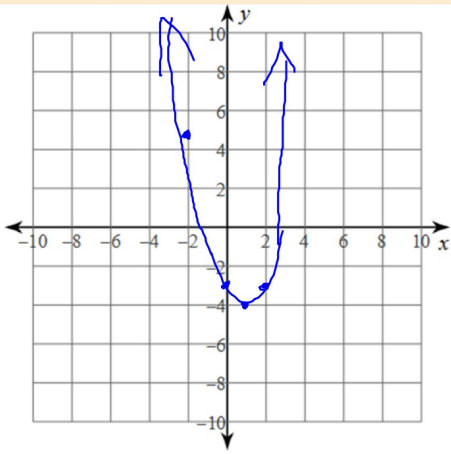


Warm-up: Graph $y = (x + 1)(x - 3)$



Where does the quadratic cross the x-axis?

Warm-up: Graph $y = (x + 1)(x - 3)$



$$y = (-2+1)(-2-3)$$
$$y = (-1)(-5)$$
$$y = (2+1)(2-3)$$
$$y = (3)(-1)$$

x	y
-2	5
0	-3
1	-4
2	-3

Where does the quadratic cross the x-axis?

Quiz 6.1: Quadratics

1. Graphing
2. Distributive Property
3. Factorization
4. Solving



Factored form

$$y = a(x - r_1)(x - r_2)$$

General form

$$y = ax^2 + bx + c$$

Quiz Rubric - Unit 6:

- | | |
|---|---|
| 7 | <ul style="list-style-type: none"> Select appropriate mathematics when solving challenging problems in both familiar and unfamiliar situations. Apply the selected mathematics successfully when solving these problems. |
| 8 | <ul style="list-style-type: none"> Generally solve these problems correctly. |

Times Table - 12x12

	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

- All problems are solved **without error** and detailed work shown.
 - Graph quadratics with multiple points.
 - Expand quadratic expressions.
 - Factor quadratic expressions completely.
 - Solve quadratics
 - Factoring
 - Taking square roots

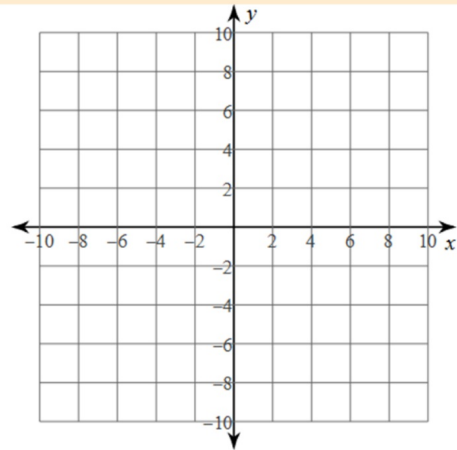
1. Graphing

a) $y = x^2 - 6x + 5$

[Show work to complete the table, then graph].

b) What intercepts can you find?

x						
y						

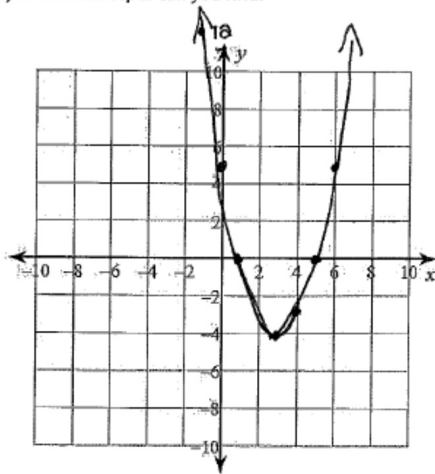


1. Graphing Solutions

3) Graph a quadratic given an equation and the use of a table. [Show work to complete the table, then graph].

a) $y = x^2 - 6x + 5$

b) What intercepts can you find?



x	-1	0	1	4	5	6	3
y	12	5	0	-3	0	5	-4

$$y = (-1)^2 - 6(-1) + 5 = 12$$

$$y = 0^2 - 6(0) + 5 = 5$$

$$y = 1^2 - 6(1) + 5 = 0$$

$$y = 4^2 - 6(4) + 5 = -3$$

$$y = 5^2 - 6(5) + 5 = 0$$

$$y = 6^2 - 6(6) + 5 = 5$$

$$y = 3^2 - 6(3) + 5 = -4$$

↑
(From
Table
in Calc.)

b) (1,0) (5, 0) and (0,5) are intercepts!

2. Distributive Property

$$\text{a) } x(x-3) \quad \text{b) } -3a(2a+5)$$

2. Distributive Property

$$\text{c) } (x-2)(x+7) \quad \text{d) } -4(y+3)(y-1)$$

Solutions

1) Expand to general form from factored form. $a(x-r_1)(x-r_2) \rightarrow ax^2+bx+c$

a) $x(x-3)$ b) $-3a(2a+5)$ c) $(x-2)(x+7)$ d) $-4(y+3)(y-1)$

x^2-3x $-6a^2-15a$ $x^2+7x-2x-14$ $-4(y^2-y+3y-3)$

x^2	$7x$
$-2x$	-14

$x^2+5x-14$ $-4(y^2+2y-3)$

$x^2+5x-14$ $-4y^2-8y+12$

Challenge: Create your own problem and have a friend solve it!

$(x+3)(x-2)(x+1) = ??$ Try it!

Times Table - 12x12

	1	2	3	4	5	6	7	8	9	10	11	12
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4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
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3. Factorization

a) $x^2 + 12x + 27$

3. Factorization

b) $x^2 - 8x + 7$

3. Factorization

c) $-2x^2 - 10x + 48$

3. Factorization Solutions

2) Rewrite each general expression to factored form. $ax^2 + bx + c \rightarrow a(x-r_1)(x-r_2)$

a) $x^2 + 12x + 27$



+

$(x+3)(x+9)$

Verify:

$x^2 + 3x + 9x + 27$

$x^2 + 12x + 27 \checkmark$

b) $x^2 - 8x + 7$



+

$(x-7)(x-1)$

Verify:

$x^2 - 7x - x + 7$

$x^2 - 8x + 7 \checkmark$

c) $\frac{-2x^2 - 10x + 48}{-2 \cdot -2 \cdot -2}$

$-2(x^2 + 5x - 24)$



+

$-2(x+8)(x-3)$

Verify:

$-2(x^2 + 8x - 3x - 24)$

$-2(x^2 + 5x - 24)$

$-2x^2 - 10x + 48 \checkmark$

Challenge: Create your own problem and have a friend solve it!

2. Distributive Property

Challenge: Create your own problem and have a friend solve it!

3. Factorization

Challenge: Create your own problem and have a friend solve it!

4. Solving

$$\text{a) } x^2 + 4 = 20$$

4. Solving

$$\text{b) } (x - 2)^2 + 3 = 67$$

4. Solving

$$\text{a) } x^2 + 4 = 20$$

$$\begin{array}{r} -4 \quad -4 \\ \hline \sqrt{x^2} = 16 \end{array}$$

$$\boxed{x = \pm 4}$$

$$\text{b) } (x-2)^2 + 3 = 67$$

$$\begin{array}{r} -3 \quad -3 \\ \hline \sqrt{(x-2)^2} = 64 \end{array}$$

$$x-2 = \pm 8$$

$$\begin{array}{r} x-2=8 \\ +2 \quad +2 \end{array}$$

$$\begin{array}{r} x-2=-8 \\ +2 \quad +2 \end{array}$$

$$\boxed{x = 10}$$

$$\boxed{x = -6}$$

4. Solving

$$c) (x - 4)(x - 5) = 0$$

4. Solving

$$d) x^2 - 16x + 60 = 0$$

4. Solving

$$c) (x-4)(x-5) = 0$$

$$x = 4, 5$$

$$d) x^2 - 16x + 60 = 0$$

$$(x-10)(x-6) = 0$$

$$x = 10, 6$$

Exercises...

Study!

Friday 3/16

Quiz 6.1

(Tomorrow!)