SOLUTIONS = X-int
= zeros
= Roots

Section
5.2B

#1 – 2: Complete each table of information.

1)

Table of values:	vertex							
x	-2	-1	0	1	2	3	4	5
y	-7	-12	-15	-16	-15	-12	-7	0

Factored (intercept) form of the equation:

$y = (x-5)(x+3)$

Solutions for the equation:

$0 = (x-5)(x+3)$

$X = 5$ $X = -3$

Graph:

x-intercept(s):

$(5, 0)$ $(-3, 0)$

*opposites

*look at graph

Verify the solution(s):

$X - 5 = 0$
$+5 +5$
$X = 5$

$X + 3 = 0$
$-3 -3$
$X = -3$

2)

Table of values:	vertex				
x	1	2	3	4	5
y	0	-3	-4	-3	0

Factored (intercept) form of the equation:

$y = (x-1)(x-5)$

Solutions for the equation:

$0 = (x-1)(x-5)$

$X = 1$ $X = 5$

Graph:

x-intercept(s):

$(1, 0)$ $(5, 0)$

Verify the solution(s):

$X - 1 = 0$
$+1 +1$
$X = 1$

$X - 5 = 0$
$+5 +5$
$X = 5$

3) Write two or more conjectures about the relationship of the information in the charts above.

#4 – 7: Write each equation in factored form and use it to find the x-intercepts for each quadratic equation, check your answers, and then match each equation with the graphs pictured.

4) $y = x^2 - 9$ GCF = 1

$(x-3)(x+3)$

x-intercepts: $(3, 0)$ $(-3, 0)$

✓Check your answer(s):

Matches with graph **A**

5) $y = -x^2 + 4$ GCF = -1

$-1(x^2 - 4) \rightarrow -1(x+2)(x-2)$

x-intercepts: $(-2, 0)$ $(2, 0)$
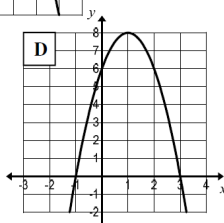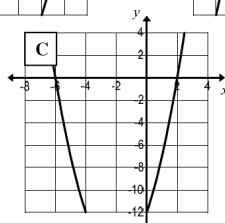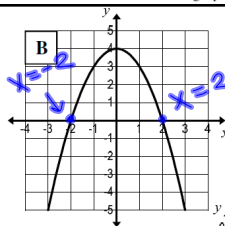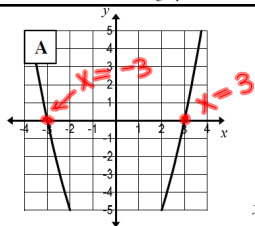
✓ Check your answer (s):

Matches with graph **B**

6) $y = x^2 + 4x - 12$ GCF =

$(x-2)(x+6)$

x-intercepts: $(2, 0)$ $(-6, 0)$

✓Check your answer(s):

Matches with graph **C**

7) $y = -2x^2 + 4x + 6$ GCF = -2

$\dfrac{-2}{-2} \dfrac{4}{-2} \dfrac{6}{-2}$

$-2(x^2 - 2x - 3)$
$-2(x-3)(x+1)$

x-intercepts: $(3, 0)$ $(-1, 0)$

✓ Check your answer (s):

Matches with graph **D**

HOMEWORK:

5.2B
P-11 #1-9

Name _____ Period _____

5.2B *Solve Quadratic Equations by Factoring: Part I*

#1 - 3: Solve for *x*.

1. $(x-4)(x+9)=0$

2. $(x-2)(3x-6)=0$

3. $(4x+3)(2x-5)=0$

#4 – 17: Factor the quadratic expression then solve the equation by factoring. Verify your solution(s).

4. $4x^2-36=0$

5. $5x^2-20=0$

6. $\dfrac{3x^2-9x=0}{3x \quad 3x}$ GCF=3x

$3x(x-3)=0$

$\dfrac{3x}{3}=\dfrac{0}{3}$

✓Verify your solution(s):

✓ Verify your solution(s):

✓ Verify your solution(s):

$x=0 \qquad x=3$

$3(0)^2-9(0)=0$ ✓

$3(3)^2-9(3)=0$ ✓

7. $7x^2-28x=0$

8. $x^2+8x-9=0$

9. $x^2+7x+12=0$

✓Verify your solution(s):

✓ Verify your solution(s):

✓ Verify your solution(s):