Name: _____
Period: ____

**Warm-up:** ***after Quadratic Formula***

Solve by factoring.

a. $x^2+5x+6=0$

m: 6
A: 5
2, 3

$(x+2)(x+3)=0$

$x+2=0 \quad x+3=0$

$x=-2 \quad x=-3$

b. $3x^2-15x=0$

$3x(x-5)=0$

$3x=0 \quad x-5=0$

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

$x=0 \quad x=5$

Simplify

Simplify the square root ***before*** reducing the fraction

c. $\sqrt{24}$

$\sqrt{2\cdot2\cdot2\cdot3}$

$2\sqrt{6}$

d. $\frac{-4\pm\sqrt{16}}{2}$

$=\frac{-4\pm4}{2}$

$=-2\pm2$

$=-2+2, -2-2$

$=0, -4$

e. $\frac{-4\pm\sqrt{-16}}{2}$

$=\frac{-4\pm4i}{2}$

$=-2\pm2i$

$=-2+2i$ and $-2-2i$

f. $\frac{12\pm\sqrt{18}}{6}$

$\sqrt{18}$

$\sqrt{3\cdot3\cdot2}$

$3\sqrt{2}$

$\frac{\cancel{12}^{4}\pm\cancel{3}^{1}\sqrt{2}}{\cancel{6}_{2}}$

$=\frac{4\pm\sqrt{2}}{2}$

$\frac{4+\sqrt{2}}{2}, \frac{4-\sqrt{2}}{2}$

**Using the Quadratic Formula to solve quadratic equations**

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

a b c

a = 2

b = −1

c = −5

$$x=\frac{-(-1)\pm\sqrt{(-1)^2-4(2)(-5)}}{2(2)}$$

1+40

$$x=\frac{1\pm\sqrt{41}}{4}$$

3. $2x^2 - 1 = -4x$

a =

b =

c =

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

a =

b =

c =

***Now for the rest of the notes . . . .***

5. $1x^2 - 1x + 1 = 0$

a = 1

b = −1

c = 1

$$x = \frac{-(-1) \pm \sqrt{(-1)^2 - 4(1)(1)}}{2(1)}$$

$$x = \frac{1 \pm \sqrt{-3}}{2}$$

$$x = \frac{1 \pm i\sqrt{3}}{2}$$

6. $1x^2 + 9 = 0$

0x

a = 1

b = 0

c = 9

$$x = \frac{-(0) \pm \sqrt{(0)^2 - 4(1)(9)}}{2(1)}$$

$$x = \frac{\pm\sqrt{-36}}{2}$$

$$x = \frac{\pm 6i}{2}$$

$$x = \pm 3i$$

***Homework***

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