Name:	 

Date:

LESSON 8

UNIT 8

**DO NOW:** Which equation has the same solutions as  $2x^2 + x - 3 = 0$ 

1) 
$$(2x-1)(x+3)=0$$

2) 
$$(2x+1)(x-3)=0$$

$$\times (3 \times +3) | -1 (3 \times -3) = 0$$

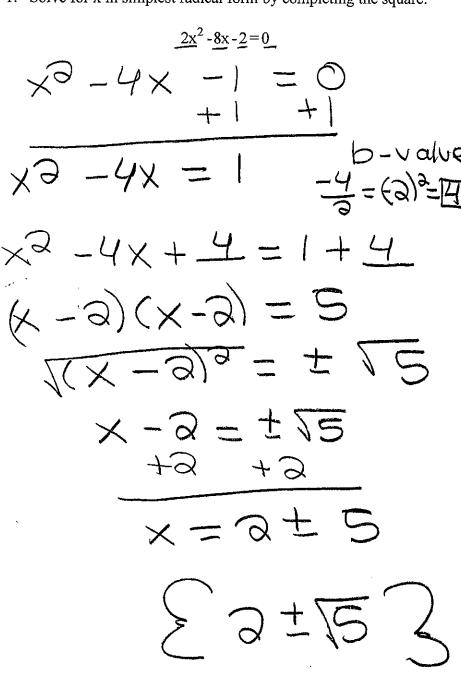
3) 
$$(2x-3)(x+1) = 0$$
  
4)  $(2x+3)(x-1) = 0$ 

$$(2x+3)(x-1)=0$$

AIM: COMPLETING THE SQUARE (a  $\neq$  1)

1. Solve for x in simplest radical form by completing the square:

Steps:



	1.	If "a" value is not equal to 1, divide
		both sides of the equation by the
		leading coefficient.
	2.	Move the constant ("c" value) to the
		right side. (The "a" value must be
		equal to 1!)
	3.	Make the left side a perfect square
?		trinomial: Take half of the "b" value
4	14.	Square it.
	5.	Add it to BOTH sides.
_	6.	Factor the perfect square trinomial
		and simplify right side.
	7.	Take the square root of both sides and
		solve! (Remember positive and
		nagativa regultetttt)

2. Solve for the roots in simplest radical form: 
$$\frac{10x^{2} + 20x = 100}{10 \cdot 10 \cdot 10}$$

$$\times^{2} + 2x = 10$$

$$\times^{2} + 2x + 1 = 10 + 1$$

$$(x + 1)(x + 1) = 11$$

$$(x + 1)^{2} = 4\sqrt{11}$$

$$x + 1 = 4\sqrt{11}$$

X=-1±11

	<b> </b>
1.	If "a" value is not equal to 1, divide
	both sides of the equation by the
	leading coefficient.
2.	Move the constant ("c" value) to the
ł	right side. (The "a" value must be
1	equal to 1!)
3.	Make the left side a perfect square
	trinomial: Take half of the "b" value
4.	Square it.
5.	Add it to BOTH sides.
6.	Factor the perfect square trinomial and
	simplify right side.
7.	Take the square root of both sides and
	solve! (Remember positive and
	negative results!!!!)

$$\begin{array}{c} x^{2} - 8x + 4 = 0 \\ \hline -4 - 4 \\ \hline -4$$

>-1+111 3. Find the zeros of the function to the nearest tenth:  $3x^2 - 24x + 12 = 0$ (-8) = (-4)=116

4. Find the solution set in simplest radical form: 
$$\frac{3x^2-12x-24=0}{3}$$
  $\frac{3}{3}$   $\frac$ 

$$\sqrt{2} - 4x = 8$$
 $\sqrt{2} - 4x = 8$ 
 $\sqrt{2} - 4x = 8 + 4$ 
 $(x - 2)(x - 3) = 12$ 
 $(x - 3)^2 = \pm 173$ 
 $(x - 3)^2 = \pm 173$ 

5. Find the roots to the nearest hundredth: 
$$5x^2 + 10x - 5 = 0$$

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$$5x^2 + 10x - 5 = 0$$

$$5 = 5 = 5$$

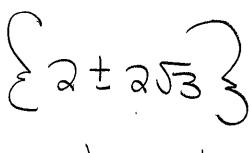
$$2 + 2x - 1 = 0$$

$$x^2 + 2x = 1$$

$$x^3 + 2x + 1 = 1 + 1$$

$$x^2 + 2x + 1 = 1 + 1$$

$$x^2 + 1 = 1 + 1$$



6. Find the x-intercepts in simplest radical form: 
$$\frac{2x^2 + 12x = 18}{3}$$
  $\frac{1}{3}$   $\frac{1}{3}$ 

7. Solve for x in simplest radical form:  $2x^3 - 16x^2 - 4x = 0$ 

$$\frac{x_3 - 8x = 3}{x_3 - 8x - 3} = 3$$

- = - (小=100)

$$x^{2} - 8x + 16 = 6$$
 $(x^{2} - 4)(x - 4) = 18$ 
 $(x^{2} - 4)(x - 4)(x - 4) = 18$ 
 $(x^{2} - 4)(x - 4)(x - 4) = 18$ 
 $(x^{2} - 4)(x - 4)(x - 4)(x - 4)(x - 4) = 18$ 
 $(x^{2} - 4)(x - 4)($