

Unit 3 Review (3-R)

*make a notecard-- even if you can't use it, it's a good study tool!

1. Main Focus-- Solving Quadratics!

A. Factoring	$4x^2 - 7x - 15 = 0$	60: 12,5
- GCF	$4x^2 - 12x + 5x - 15 = 0$	
- Diff. squares	$(4x^2 - 12x) + (5x - 15) = 0$	
- Guess/Check	$4x(x - 3) + 5(x - 3) = 0$	
- Grouping	$(4x+5)(x-3)=0$	
	$x = -5/4$ or 3	

B. Completing the Square

$$2x^2 + 4x - 8 = 0$$

$$x^2 + 2x - 4 = 0$$

$$x^2 + 2x + \quad = 4 +$$

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

$$(x + 1)^2 = 5$$

$$x + 1 = \pm\sqrt{5}$$

$$X = -1 + \sqrt{5} \text{ or } -1 - \sqrt{5}$$

C. Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

2. Other Details

D. Vertex form: $y = a(x - h)^2 + k$ Vertex $(-b/2a, \text{substitute})$

E. Applications

- Area
- Pyth. thm
- Falling object

F. Curve Fitting-- use matrix!