Name:_____ Date:_____

Pre Calculus 11 Ch 3 Lesson 3 Part 1 Introduction to Solving Equations with Radicals

1. Solve each of the following radicals and check for extraneous roots

a) $\sqrt{x}=3$	b) $\sqrt{x+2}=4$	c) $\sqrt{5x}=10$	d) $\sqrt{3x+1}=4$
e) $\sqrt{3-x}=10$	f) $\sqrt{2x+1}=-3$	g) $\sqrt{3-4x}=-4$	h) $-\sqrt{4x+5}=8$
i) $2\sqrt{3x+1}=7$	j) $3\sqrt{5x-4}=8$	k) $4-3\sqrt{6x-1}=0$	L) $3+\sqrt{3x+13}=2x$
m) $4=x+\sqrt{x^2-8}$		n) $5+2\sqrt{4+9x}=2x$	

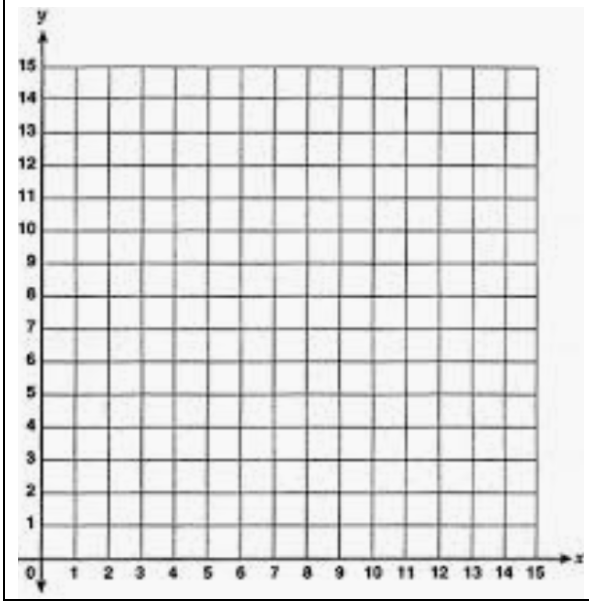
2. How do you check if an equation will have an extraneous root by inspection?

3. Solve the following equation and show all your work and steps. How many solutions does the equation have?

$\sqrt{x^2 - 3x} = 12$

4. Graph the following equations on the grid provided.
   i) Provide 3 or more coordinates on the graph.
   ii) Indicate the coordinate of the intersection point

a) $y = \sqrt{x+1}$ and $y = 4$



b) $y = \sqrt{x-2}$ and $y = -3$

5. Which equation has a solution and which one has an extraneous root? Please explain:

   i) $5 - 3\sqrt{3x+1} = 10$ vs ii) $5 + 2\sqrt{3x+4} = 10$