Name:_____ Date:_____

HW Pre Calculus 12 Section 2.3 Solving Radical Functions:

1. What does it mean when an equation has an extraneous root?

2. Is an extraneous root also a solution? YES or NO ?? Explain:

3. For what values of "k" will the function not have any solutions? Explain: $\sqrt{ax+b}=k$

4. For what values of "k" will the function not have any solutions? Explain: $\sqrt{ax^2 \pm b}=k$

5. How do we check for extraneous roots? Explain:

6. Why do extraneous roots exist? Explain:

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7. Which of the following functions will have an extraneous root? Explain:

i) $\sqrt{5x^2-3x}+2=0$ ii) $\sqrt{8-3x^2}+2=3$ iii) $\sqrt{-9x^2+20}+8=7$

8. How do you tell whether if a square root function is either a semi circle or a semi-hyperbola? Explain:

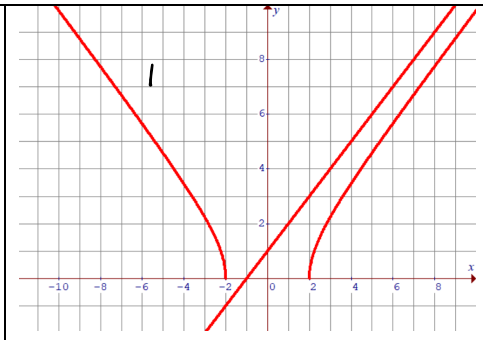
9. Match each equation with the graph that corresponds with it:

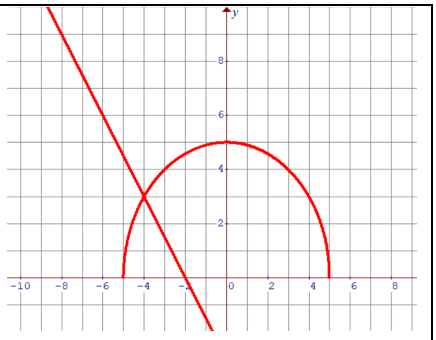
I $\sqrt{x^2-4}=x+1$

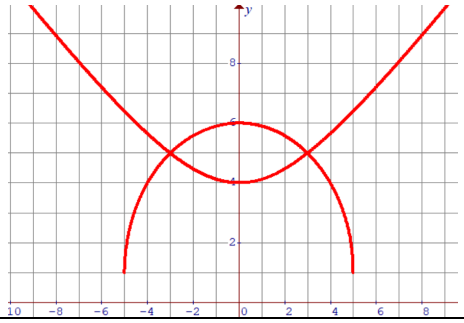
II) $\sqrt{25-x^2}=\frac{-3}{2}(x+4)+3$

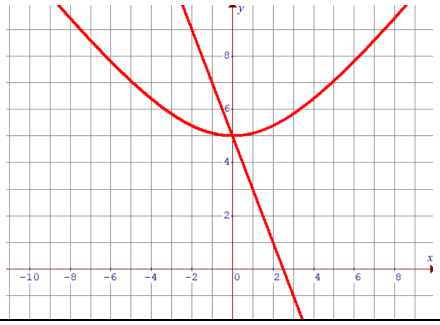
iii) $\sqrt{25+x^2}=-2x+5$

iv) $\sqrt{x^2+16}=\sqrt{25-x^2}+1$









Solve the following equations for "x", check for extraneous roots:

a) $\sqrt{9-x^2}=x+3$

b) $\sqrt{16-x^2}=-x+4$

c) $\sqrt{25-x^2}=7-x$

d) $\sqrt{x^2-9}=0.5x+6.5$

e) $\sqrt{(x-2)^2-25}=0.5x+2$	f) $\sqrt{x^2+4}=-3x+2$
g) $\sqrt{x^2-4x+13}=\frac{3}{2}x+8$	h) $\sqrt{x^2+2x+26}=\frac{-2}{5}(x+1)+5$
i) $\sqrt{25-4(x-1)^2}=-(x-1)+5$	j) $\sqrt{-5x^2+20x+16}=2x-4$
k) $\sqrt{9-(x+1)^2}=0.5x-5$	L) $\sqrt{x^2+16}=-\sqrt{25-x^2}$