Name_____

Date_____

Advanced Algebra

Disguised Quadratic Equations-Assignment #1

Solve each of the following equations for x. You do this by factoring and using the zero product property. This is where you set each factor equal to zero and then you solve.

1) $x^4-13x^2+36=0$

$(x^2-9)(x^2-4)=0$

$x=\pm 3 \quad x=\pm 2$

2) $x^4-2x^2-3=0$

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

$x=\pm\sqrt{3}$

3) $x^6-28x^3+27=0$

$(x^3-27)(x^3-1)$

$x=3 \quad x=1$

4) $x^6+5x^3-24=0$

$(x^3+8)(x^3-3)$

$x^3+8=0$ $\quad x^3-3=0$

$x^3=-8$ $\quad x=\sqrt[3]{3}\approx 1.44$

$x=-2$

5) $x-5\sqrt{x}+6=0$

$(x^{\frac{1}{2}}-3)(x^{\frac{1}{2}}-2)$

$x=9 \quad x=4$

6) $x-6\sqrt{x}+5=0$

$(x^{\frac{1}{2}}-5)(x^{\frac{1}{2}}-1)$

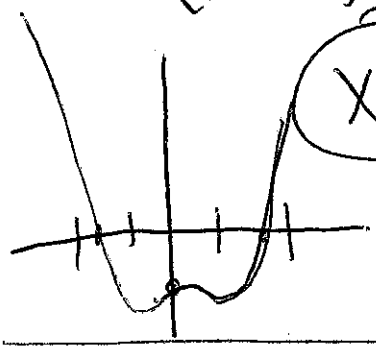
$x=25 \quad x=1$

7) $x^4+x2=12$

$x^4 + x^2 - 12 = 0$

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

$x = \pm\sqrt{3}$



8) $x=4\sqrt{x}-3$

$X - 4x^{\frac{1}{2}} + 3 = 0$

$(x^{\frac{1}{2}}-1)(x^{\frac{1}{2}}-3)=0$

$X=1$ $X=9$

9) $x^8+16=17x^4$

$x^8 - 17x^4 + 16 = 0$

$(x^4-16)(x^4-1)=0$

10) $x^6=8+2x^3$

$x^6 - 2x^3 - 8 = 0$

$(x^3-4)(x^3+2)$

$x=\sqrt[3]{4}$ $x=\sqrt[3]{2}$

11) $8\sqrt{x}=15+x$

$X - 8x^{\frac{1}{2}} + 15 = 0$

$(x^{\frac{1}{2}}-5)(x^{\frac{1}{2}}-3)$

12) $65x^4=16+4x^8$

$4x^8 - 65x^4 + 16 = 0$

64 / -64 / -1 / -65

	$1x^4$	-16
$4x^4$	$4x^8$	-64
-1	-1	16

$(x^4-16)(4x^4-1)=0$

$x=\pm 2$ $x=\pm .71$