College Algebra with Review
Chapter 9/10 Test Review

1. One of the following types

Use the square root property to solve: $(x+3)^2=9$	Use the square root property to solve: $(3x-1)^2=24$	Use the square root property to solve: $(5x+2)^2=-25$

2. One of the following types

Use completing the square to solve: $x^2+4x-2=0$	Use completing the square to solve: $x^2+2x+30=0$	Use completing the square to solve: $x^2-10x+1=0$

3. One of the following types

Use the quadratic formula to solve: $x^2+2x+5=0$	Use the quadratic formula to solve: $x^2-10x+1=0$	Use the quadratic formula to solve: $x^2-12x+20=0$

4. One of the following types:

Use the u-substitution to solve: $x^4-7x^2+10=0$		

5. Solve a polynomial inequality (may have to factor using DOTS, PSD, or Key #):

$x^2-x-20>0$

6. Find the domain of the following functions:

$f(x)=\dfrac{3x+2}{x^2-9x+18}$	$f(x)=\sqrt{3x+8}$

7. Find the composition of two functions:

Given $f(x)=x^2-3x-2$ and $g(x)=x-5$, find: a) $f\circ g$ b) $g\circ f$	Given $f(x)=11x-1$ and $g(x)=3x+7$, find: a) $f\circ g$ b) $g\circ f$

8. Find the vertex, axis of symmetry, any min and/or max's and the graph of:

$f(x) = x^2 - 8x + 3$

9. Evaluate a Piecewise Function

Given: $f(x) = \begin{cases} \lvert x+3 \rvert, x \le 0 \\ 9x-1, x > 0 \end{cases}$, find: a) f(-10) b) f(9) c) f(0)	Given: $f(x) = \begin{cases} x^2 - 3x, x \le 2 \\ 5x-1, x > 2 \end{cases}$, find: a) f(8) b) f(2) c) f(-1)

10. Determine if a function is even, odd, or neither

Determine if the following function is even, odd, or neither (no guessing, if your "why" is not correct, you will not receive credit): $f(x) = \lvert x^3 - x \rvert$	Determine if the following function is even, odd, or neither (no guessing, if your "why" is not correct, you will not receive credit): $f(x) = \frac{1}{x} - x^3$