Honor Honesty Statement:

Your signature_____

Show your steps. and work on another piece of paper. Unless otherwise indicated: Each question is scored: 2 points for the correct answer; 3 points for the correct work. Partial credit may be awarded. This is due at the beginning of class or by 8 am the day you reurn to school if absent. If you are in school and leave before class. You need to drop it off before you leave.

Solve.
1) Last year, Maria earned $354 per week. This year, her salary increased to $383 per week. What is the percent of increase? Round to the nearest tenth of a percent.

2) How can the graph of $f(x) = 0.7(x + 6)^2 - 11$ be obtained from the graph of $y = x^2$?

Solve by factoring.
3) $5k^2 - 29k - 6 = 0$

Solve using linear combinations. Write solution as an ordered pair.
4) $7x - 6y = 80$
   $2x - 3y = 28$

For the pair of functions
5) $f(x) = 2x - 5$, $g(x) = \sqrt{x + 10}$
   Write the equation for the compostion $f(g(x))$ and find the domain of $f(g(x))$. Also find $f(g(-1))$

6) For the function defined in #5. Find $f(-4)$, $f(0)$, $f(2)$, $f(f(-1))$, $f^{-1}(6)$. Explain how your arrived at your answers.

Find the intervals on which the function is increasing and the intervals on which the function is decreasing. Find the coordinates of the vertex. Find the horizontal and vetical intercepts. This must be completed anayltically, not graphically.
7) $f(x) = -x^2 + 12x + 28$

Solve.
8) $-21 - (2y - 2) = 3(y - 1) + 3y$

9)

Find the domain of the function below

$$f(x) = \frac{\sqrt{2 - x}}{3x^2 - 10x + 3}$$

10)

Seth throws an old, dry cow pie into the river from the top of a barn. Its height, in meters above river, as a function of time, in seconds, is given by

$$h(t) = -4.9t^2 + 24t + 8$$

    a. From what height was the cow pie thrown?
    b. How high above ground does the cow pie reach its peak?
    c. When does the cow pie splash down in the river?