Honor Code Certification:

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.

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.

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

Find the average rate of change of the function over the given interval.
   3) $g(t) = \dfrac{3}{t-2}$, $[4, 7]$

Write an equation of the line. Write the equation in point–slope form
   4) Through $(-4, 1)$; perpendicular to $y = -3x + 1$

Solve using inear combinations. Write solution as an ordered pair.
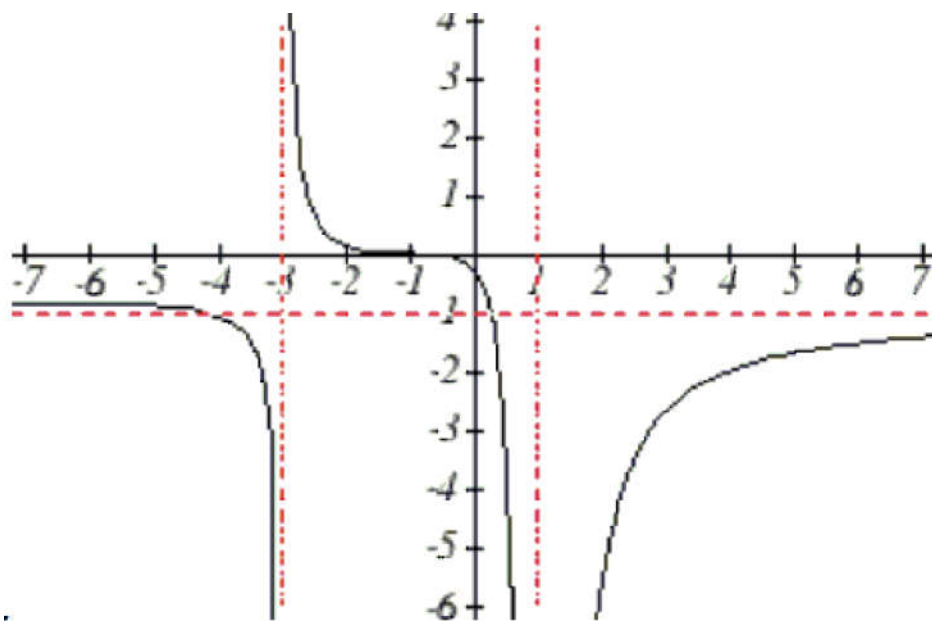   5) $7x - 6y = 80$
      $2x - 3y = 28$

Write in factored form. Use the graph of the function to find one zero. Then use synthetic division to find all factors.
   6) $f(x) = x^3 - 6x^2 + 7x + 4$

Problem 7 counts for 10 points.
   7) Tyruss is visiting the Santa Monica's Pier. She buys a bagel and can't eat it all. She wings it off the end of Pier.

      The distance above the water in feet after t seconds is $h = -15t^2 + 480t. + 30$
      How far above the water does she let go of the bagel?
      After how many seconds does it reach its maximum height?. Whatis the maximum ht of the bagel?
      When does the bagel splash down in the water?

8) Write a function to repesent the graph below.

9) Write a function to repesent the graph below.