MTH 104 – Test #3

(Wednesday April 4th  8:30 – 10:20 am)

Be able to do problems like the following:

- Solve a system of two equations in two variables → see Class Practice on Systems of Equations #1 – #6 and Page 225: 25, 31, 33, 37, 39, 41, 53, 55, 61, 65

- Recognize whether a system of two equations in two variables is Consistent, Inconsistent, or Dependent, and tell how you know → see diagrams on the Bottom of Page 218

- Solve mixture problems → see Class Practice on Mixture Problems and Page 244: 17, 18 (Answer is 3.75 gallons of 20% and 6.25 gallons of 4%)

- Determine the value of a variable in a polynomial equation given sufficient information → see Class Practice on Polynomials #1 and Page 285: 29, 31

- Add and subtract polynomials → see Class Practice on Polynomials #2 and Page 285: 35, 37, 39, 43, 47, 49, 57

- Multiply polynomials → see Class Practice on Polynomials #2 and Page 295: 9 – 23, 29, 31, 33, 39, 43, 45, 47, 49, 57

- Divide polynomials and write your answer in the form
  \[
  \frac{\text{Dividend}}{\text{Divisor}} = \text{Quotient} + \frac{\text{Remainder}}{\text{Divisor}}
  \] → see Class Practice on Polynomials #3 and Page 306: 11 – 25, 35, 37, 41, 43, 49, 51

- Factor algebraic expressions using the methods of common factor removal, grouping, factoring trinomials (using the ac-method or trial and error), difference of two perfect squares, and sum and difference of two perfect cubes → see Class Practices on Factoring Review #1 – #4 and Class Practices on Factoring the Sum or Difference of Two Cubes and Page 313: 9 – 21, 27, 29, 31, 37, 39, 45 – 55 and Page 325: 13 – 21, 29 – 37, 41, 47, 51, 57 and Page 332: 11 – 25, 51 – 61

- Solve quadratic equations by factoring → see Class Practice on Quadratic Equations Review on Solving by Factoring and Page 346: 25, 27, 29, 35, 37, 39, 43, 47, 49

- Solve word problems involving quadratic equations → see Class Practice on Quadratic Equation Application and Page 348: 87, 89, 97, 99

- Create a linear equation from given data points → see Class Practice on An Application of the Point – Slope Form (Point-Slope Form #4) and Page 191: 43 and Page 213: 60 (Answers are: a. C(r) = 1.8r + 435  b. 507 calories  c. about 91.7 yards per minute)
• Add, subtract, multiply, divide and simplify fractions → see Class Practice on Fraction Review #1 and #2 and also Class Practice on Fraction Practice #1 – #6 and Page 369: 29 – 29, 49, 51, 55, 61 and Page 379: 5, 7, 9, 13, 35 – 41, 45, 47, 49

• Simplify complex fractions → see Class Practice Sheet of Complex Fractions and Page 385: 5, 9, 11, 13, 15, 23, 25, 29