Please complete the following exercises before you come to class on Tuesday, February 10, 2015.

I would like for you to show me your best effort on these problems. Please complete them without the use of your calculator, and without the help of any other person.

I look forward to meeting all of you on Tuesday.

1. Without the use of your calculator, state whether the value of the following expressions will be positive, negative, or zero.

   (a) \(-425 + 987 - 36\)
   (b) \((378)(-45)(-982)\)
   (c) \(\frac{-23 + 58}{-23 - 58}\)
   (d) \([5(42 + 90) - 100] \cdot \sqrt{4^2 - 3^2 - 7}\)

2. Without the use of your calculator, perform the indicated operations. Simplify your results.

   (a) \(\frac{3}{4} \cdot \frac{20}{9}\)
   (b) \(\frac{3}{4} - \frac{20}{9}\)
   (c) \(\frac{3}{4} + \frac{20}{9}\)
   (d) \(\frac{3}{4} \div \frac{20}{9}\)

3. Without the use of your calculator, evaluate each expression.

   (a) \(4 + 2 \cdot (6 - 2)\)
   (b) \(2 \cdot [25 - 2(10 - 4)]\)
   (c) \(\left(\frac{2}{3}\right)^2 \cdot \left(1 + \frac{23}{23} - 2\right)\)
   (d) \(\frac{2 \cdot 4 - 5}{4^2 + (-2)^3} + \frac{3^3}{2^3}\)
4. Without the use of your calculator, evaluate each of the following expressions.

(a) \( y^2 - 4y + 5 \) for \( y = 3 \)  
(b) \( \frac{2w}{w^2 + 2w + 1} \) for \( w = 3 \)  
(c) \(-2z^2 + z + 3\) for \( z = -4 \)  
(d) \( \frac{|3 - 5x|}{(x - 2)^2} \) for \( x = 4 \)

5. Simplify each expression by combining like terms.

(a) \( 15x - 14x \)  
(b) \( 13z + 2 - 14z - 7 \)  
(c) \(-2(5x - 4) - (4x + 1)\)  
(d) \( \frac{2}{5}(5x - 10) + \frac{1}{4}(8x + 4) \)  
(e) \(-4(w^2 - 3w - 2) - (5 - 2w - 3w^2)\)  
(f) \( \frac{1}{4} \left( \frac{2}{3}x - \frac{1}{2} \right) + \frac{1}{10} \left( \frac{5}{2}x - \frac{15}{4} \right) \)