Math 102
Exam 3
Fall 2010

Name:

1. [10 pts. each] Prime factor each.
   (a) 3234
   (b) 4959

2. [20 pts. each] Find the GCD and LCM.
   (a) 588 and 2079
   (b) 180, 378, and 600

3. [15 pts.] Planet Ziltoid goes once around its sun every 507 days, while planet Arizonastan completes an orbit in 390 days and distant planet Everbitter's year is 1022 days long. If all three planets are in alignment today, in how many days will they all be in alignment again in the same place?

4. [10 pts. each] Express each repeating decimal number as a quotient of integers.
   (a) 3.222222...
   (b) 7.01515151515...

5. [5 pts. each] Determine whether the number is rational or irrational. Identify any repeating element.
   (a) 18.919919991999919999919999991...
   (b) 3.012112111211212112111211212...
   (c) 5.6843923590862345

6. [15 pts.] Change the expression $10y+4(3+5y)$ to $30y+12$, stating the property of real numbers being used at each step.

7. [10 pts. each] Solve each equation
   (a) $14 = 3x + 5$
   (b) $\frac{y}{3} + 4 = \frac{2y}{5} - 6$

8. [15 pts.] Vinny receives a weekly salary of \$400 at Abbott's Appliances. He also receives a 7% commission on the total dollar amount of all sales he makes. What must his total sales be in a week if he is to make a total of \$790?

9. [15 pts.] Jim is building a rectangular deck and wants the length to be 3 feet greater than the width. What will be the dimensions of the deck be if the perimeter is to be 54 feet?

10. [10 pts.] Graph $2x - 3y = 10$ by plotting at least three points. Make it neat!