

Spring, 1999  
Peterson

MATH 105.

Homework 4.

**DUE: Friday, February 19.**

P1. Solve the following by setting up and solving an algebraic equation. Be sure to give a verbal response as your final answer.

- (1) Today, Bob and Mary are 286 miles apart and have agreed to drive toward each other until they meet. Bob begins driving at 8:45 AM and drives at an average speed of 42 mph. Mary begins driving at 9:05 AM and drives at an average speed of 54 mph. What time is it when Bob and Mary meet?
- (2) A child has a coin collection consisting of nickels, dimes and quarters. The face-value of the collection is \$9.70, and there are 58 coins in the collection. The number of quarters is five less than three times the number of dimes. How many nickels, how many dimes and how many quarters does the child have?

P2. Solve the following inequalities. Write your final answers in interval notation.

(1)  $5(2x - 3) + 3(x - 2) < 18$  .

(2)  $4(x + 3) - 3(3x - 5) < 7$ .

(3)  $5(x - 1) - 3(x + 2) < 7 - x$  .

(4)  $.3(x - 7) + .12(x + 1) < 6$  .

(5)  $\frac{x-1}{2} - \frac{x+5}{3} < 1$  .

(6)  $\frac{x+2}{4} + \frac{x+5}{6} < 3$  .

(7)  $1 \leq 3x - 2 \leq 13$  .

(8)  $1 < 22 - 3x < 10$  .