

Spring, 1999  
Peterson

MATH 105.

Homework 3.

**DUE: Friday, February 12.**

P1. Solve for x :

$$(1) \frac{2x-3}{2} + \frac{3x-5}{6} = \frac{x+7}{3} .$$

$$(2) \frac{x-1}{4} + \frac{x-2}{8} - \frac{x+1}{3} = 1 .$$

$$(3) \frac{3}{4}(x-7) - \frac{2}{3}(x+1) = 1 .$$

P2. Solve the following:

(1) Bill loaned Bob \$1000 . Three years later, Bob paid Bill \$1336 . What simple annual interest rate did Bill charge Bob for the loan?

(2) The area of a triangle is 20 square inches. If the altitude is 4 inches, what is the length of the base?

P3. Solve each of the following for a in terms of b and c:

$$(1) \frac{a+7b}{2} = \frac{c^2+a}{5} .$$

$$(2) b(2a+7) = b^2 + c^2 .$$

P4. Solve each of the following by setting up and solving an algebraic equation. Be sure to give an English response for your final answer.

(1) A child has a collection of nickels and pennies that has a face-value of \$3.65 . The number of nickels in the collection is seven less than three times the number of pennies. How many nickels and how many pennies does the child have?

(2) A total of \$2500 was invested in two accounts, one paying an annual interest rate of 6% and the other an annual interest rate of 9%. If the total interest earned after one year was \$167.04 , how much was invested in each account?

(3) A rectangle has a perimeter of 38 inches. The length of the rectangle is three inches shorter than twice its width. Find the length and the width of the rectangle.