## Algebra 3 Assignment # 1

- (1) Solve each of the following systems of equations please.
  - (a) x 2y = 33x - y = 14(c) 4x + 7y = 93x - 2y = 11

(b) 
$$\frac{x-2}{5} + \frac{y+1}{10} = 1$$
  
 $\frac{x+2}{3} - \frac{y+3}{2} = 4$   
(d)  $\frac{1}{4}x + \frac{1}{3}y = \frac{5}{6}$   
 $\frac{1}{2}x + \frac{2}{3}y = 3$ 

- (2) There are 22 coins in a bank consisting of only nickels and quarters. The total value of the coins is \$3.90. How many nickels and how many quarters are there?
- (3) The treasurer of the student body reported that the receipts for the last concert totaled \$1150 and that 300 people attended. If students paid \$3 per ticket and nonstudents paid \$5 per ticket, how many students attended the concert?
- (4) The cost of 10 pounds of potatoes and 4 pounds of apples is \$30.00. The cost of 4 pounds of potatoes and 8 pounds of apples cost \$20.00. What is the cost per pound of potatoes and apples?
- (5) Mary and Joe went to the store. They had a total of \$22.80 to spend and came home with \$6.20. If Mary spent  $\frac{2}{3}$  of her money and Joe spent  $\frac{4}{5}$  of his money, how much did each have to begin with?
- (6) To get to work Al first averages 36 mph driving his car to the train station and then rides the train which averages 60mph. The entire trip takes 1 hour and 22 minutes. It costs him 15¢ per mile to drive his car and 6¢ per mile to ride the train. If the total cost of his trip is \$5.22, find the distances traveled by car and train.

## Algebra 3 Assignment # 1 Answers

(1) (a) 
$$(5, 1)$$
 (c)  $\left(\frac{95}{29}, -\frac{17}{29}\right)$ 

**(b)** 
$$\left(\frac{17}{2}, -4\right)$$
 **(d)**  $\phi$ 

- (2) 8 nickels; 14 quarters
- (3) 175 students; 125 nonstudents
- (4) apples \$1.25 per pound; potatoes \$2.50 per pound
- (5) Joe had \$10.50; Mary had \$12.30
- (6) 6 miles by car; 72 miles by train