

MATH 120
HANDOUT #2 (Chapters 2 & 5)

1. Solve the systems of equations

$$6y - 4x = -2$$

$$2x + 5y = -23$$

$$\frac{4}{3}x - \frac{10}{6}y = -\frac{4}{3}$$

$$\frac{3}{2}x + \frac{5}{2}y = \frac{1}{4}$$

2. There are two types of seats available at a particular function. Some are closer to the stage, while some are farther from the stage. The seats that are closer to the stage sell for \$45 each, while the seats that are farther from the stage sell for only \$30 each. If the function sold out (900 seats), and brought in a total of \$29,250, how many of each seat type are there?

_____ Closer to stage
_____ Farther from stage

3. Solve the following system of 3 equations in 3 unknowns:

$$2x - 3y - z = 0$$

$$-2x + 2y + z = 5$$

$$3x - 4y - z = 1$$

X =	_____
Y =	_____
Z =	_____

4. Brandon has \$150 in his wallet, consisting of \$20 bills, \$10 bills, and \$5 bills. The number of \$20 bills is two less than the number of \$5 bills. If he has 14 bills total, we'd like to figure out how many of each bill he has. I have set up the equations for you. You just need to solve the system.

_____	5'S
_____	10'S
_____	20'S

5. How much money should you invest now at 3.24% compounded quarterly if you'd like to end up with \$3000 in 2 years? Round to the nearest cent.

6. How long will it take to double an investment if it's placed in an account paying 3.6% compounded monthly? Round your answer to the nearest tenth of a year, for example: 8.2 years.

7. According to Edmunds.com, a 2005 Mercedes C-240 fully loaded would cost \$31,849.00. If the interest rate is 4.8%, and you do a 4 year loan, what will your monthly payments be?

8. How much money should you be investing semiannually into an annuity paying 4% if you'd like to have \$1,000,000 in 20 years?