**NOTE TO STUDENTS: TO STUDY FOR EXAM 1,  STUDY REVIEW SHEET #1, PROBLEM SET #1, AND DO MML HOMEWORK**

PROBLEMS A to G ARE SIMILAR TO CEAFE PROBLEMS

1) If  n represents a number, write an equation which translates the sentence "15 is 12 less than 3 times a number"

2) Solve for n:  $5(8 - n) = 3n - 16$

3) Solve for x:   $z = 5x + 7y$

4) During the course of a year, the price of a house increased from $200,000 to $250,000. What was the percent increase in price?

5) If y represents a number, write an equation that translates the sentence "30 subtracted from 7 times a number is 4". Then solve that equation to find y

6) Solve:  $18 - 5x = -3(x-2)$

7) Solve:   $\frac{2}{3} + \frac{1}{4}t = 2$

**Sec. 1.1**
1) Translate to an algebraic expression

a)  product of  6 and some number

b)  3 less than twice a number

Translate to an equation and solve:

c)  Three times the sum of 1 and some number is 36.  What is the number?

d)  The difference between three times a number and four is five times the number.  Find the number.

Evaluate **:**

e)  $1 - x^3$    for  $x = -2$

f)  $50 \div 2t$   for  $t = -5$

g)  $\frac{a-b}{15}$    for a= 10   b= (-35)

**Sec 1.2**   Simplify:
(a)  $-5(2c - 4)$

(b)  $6z - 3(z + 7)$

(c)  $2(4m - 6) - 3(2m - 4)$

(d)  $4a - b - (2a - 5b)$

**Sec 1.8**
Simplify:
a)  $-2^2 + 12 \div 3 - (-5)$

b)  $36 \div (8 - 5)^2 - (-3)^2 \cdot 2$

**Sec.2.1**
Solve and check:
a)  $-\frac{4}{3}c = -8$

b)  $-4x + 15 = -1$

c)  $2x - 3(x - 5) = 18$

d)  $\frac{t}{6} = -3$

**Sec. 2.2**
a)  $7x + 4 = 3x + 32$

b)
$-7(1-x) + 15 = 3(x+8)$

Clear fractions to solve

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

**Sec 2.3**  Solve for a variable:
a)  $3x - y = 5$ solve for: y

b)  $F = Crt$     solve for $r$

c)   $m = \frac{w - p}{3}$  solve for: w

**Sec. 2.4**
Write as a decimal:
a)   12.7%
b)   150%

Write as a fraction and reduce:
c)  20%

Write as a percent:
d)  0.004
e)  $\frac{3}{5}$

Write an equation and solve
f) What is 30% of 140?

g) 54 is 24% of what number?

h) What percent of 60 is 75?

**Sec. 2.5** Problem Solving

a) Chee pays 28% of his salary in income tax. If he makes $72,000 in taxable income, how much tax does he pay?

b) Lisa left a $4 tip for a meal that cost $25. What percent of the cost of the meal was the tip?

c) Angela is seven years older than Mary. The sum of their ages is eighty-nine. What are their ages?

d) Tyrone bought two used books. One book was $24 more than the other. If his total purchase was $64, what was the price of each book?

Use the formula for perimeter of a rectangle to solve:

e) The perimeter of a rectangle is 144 ft. The length of the rectangle is three times the width. Find the length and width of the rectangle.

f) The perimeter of a rectangle is 50 m. The width of the rectangle is 5 m less than the length. Find the length and the width of the rectangle.

Use the Percent Increase/Percent Decrease formula to solve

g) The US government classified 8 million documents as secret in 2001. By 2003, this number had increased to 14 million. What is the percent increase (Source: Time, April 12, 2004)

h) In response to a decrease in sales, a company with 1500 employees reduced the number of employees to 1230. What is the percent decrease?
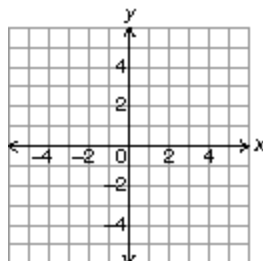
**Sec 2.6**
Solve and graph on a number line

a) $x + 7 > 9$

b) $9 - 3x > 1 - 2x$

c) $2n - 9 \geq 5n + 4$

**Sec 3.1** Plot points:
(a) -2, 5
(b) 3, -4
(c) 4, 1
(d) -3,-3



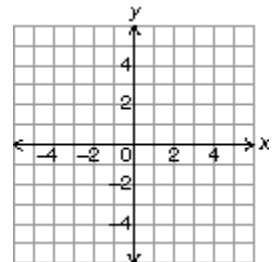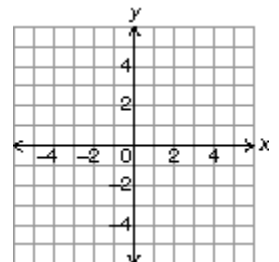**Sec. 3.2**

a) Is (-5,3) a solution to
$$y = -\frac{2}{5} + 1$$

Graph by Making a Table of Values

b) $y = -3x + 6$



c) $y = -\frac{1}{3}x + 1$

CEAFE PROBLEMS
1) $15 = 3x - 12$
2) $n=28$
3) $x = z - 7y/5$
4) 25%
5) $y=13/2$
6) $x = 12$
7) $t=16/3$

Sec. 1.1

a) $6n$
b) $2x-3$
c) $3(1+x) = 36$
        $x=11$
d) $x=-2$
e) 9
f) -5
g) 3

Sec. 1.2

a) $-10c + 20$
b) $3z + 7$
c) $2m$
d) $2a+4b$

Sec 1.8

a) 5
b) -14

Sec 2.1

a) 6
b) 4
c) -3
d) -18

Sec. 2.2

a) 7
b) 4
c) 6

Sec 2.3

a) $y = 3x - 5$
b) $F/Ct$
c) $3m + p = w$

Sec. 2.4

a) 0.127
b) 1.5
c) $1/5$
d) 0.4%
e) 60%
f) 42
g) 225
h) 125%

Sec. 2.5

a) $20,160
b) 16%
c) Mary 41
        Angela 48
d) $20 and $44
e) L=54, W=18
f) W=10, L=15
g) 75% increase
h) 18% decrease

Sec 2.6

a) $x > 2$
b) $x < 8$
c) $n \le -13/3$

Sec. 3.2

a) yes
b) 4 coordinates can
   be (0,6) (1,3) (2,0)
   (3,-3)
c) 4 coordinates can
   be (0,1) (3,0) (-3,2)
   (6,-1)

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