Math 099 - Fall 2009 - Test 3

Instructor: Dr. Francesco Strazzullo

Name_ Instructions. Only calculators are allowed on this examination. Point values of each problem are indicated. Always use the appropriate wording and units of measure in your answers (when applicable). SHOW YOUR WORK NEATLY, PLEASE (no work, no credit).

1. (15pts) You work for h hours at \$6.25 per hour. If you obtain a 15% rise, how much do you earn for

OLD EARNINGS = 6.25.6 = 37.5

"15% OF OLD GARNINGS"=" RISE" = .15.37.5 = 5.625

NEW EARNINGS = OLD + RISE = 375 +5.625 = 43 125

WITH THE 15% RISE I EARN \$43.125 FOR WORKING 6 HOURS.

NOTICE THAT MY NEW HOURLY PAY IS OF 6.2501.15=21825 DOLLARS PER HOUR

2. (15pts) Find the slope and the y-intercept for the equation x - 4y = 4.

WRITE IT IN SLOPE-INTERLEPT FORM: X-4Y=4 -0 -4Y=-X+4

-0 Y==x+4 -0 Y= xx-1

THE Y-INTERESPT IS -1 (OR RATHER (Q,-L))

3. Write the equation of each straight line described.

(a) (10pts) Vertical through (3, -1).

00 SLOPE: X = 3

(b) (15pts) Through (3,9) and (1,1).

m=SLOPE = $\frac{y_2-y_1}{x_0-x_1} = \frac{9-1}{3-1} = \frac{8}{2} = 4$ - b $y = m \times +b$ is now

Y= 4x +6 - PLUB A POINT TO FIND 6, I CHOOSE (1,1):

1=4.1+6-0 b=1-4=-3-0 [EQUATION: Y=4X-3]

(c) (15pts) With slope m = 5/3 and through (-3, 1).

$$Y = \frac{5}{3}x + b$$
, PLUB $(-3, 1)$: $1 = \frac{5}{3} \cdot (-3) + b$ -b
 $-01 = -5 + b - 0$ $b = 1 + 5 = 6$
 $EQUATION$: $Y = \frac{5}{3}x + 6$

- 4. A prepaid telephone card costs \$12. Each minute costs \$0.03 and there is none connection fee.
 - (a) (10pts) What equation describes the value remaining on the card after x minutes?

(b) (10pts) How many minutes does one need to talk so that \$2 are left on the card?

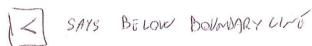
$$2 - 12 - .03 \times -0$$
 $2 - 12 = -.03 \times -0 - \frac{10}{-.03} = -.03 \times -0$

5. (15pts) Carmen rents a Cessna 152 for \$126 per hour plus \$28 insurance fee. Write the equation describing the total cost in dollars as a function of the flying hours.

6. (10pts) To meet expenses, a local theater group has a ticket sales goal of \$2400. Regular tickets sell for \$16, and matinee tickets sell for \$12. Write an inequality describing possible combinations of ticket sales that would meet the goal.

7. (10pts) Draw a graph showing all possible pairs (x, y) for which 3x - y > 2.

BOWDARY LWE: Y=3X-2



OTHER WILE:

II) BOUNDARY LINE: 3X-Y=2

1) TO DRAW IT WE CAN LOOK FOR

X-INTERCEPT: Y=0 -0 3X=2-0 X=2 Y-INTERCEPT: X=0 -0 -Y=2-0 Y=-2

2) TEST POINT (0,0): 3.0-0 > 2 FALSE.

