

## MATH 122 WORKSHEET 1

Show all work for full credit.

1. A man on the corner is selling roses. You can buy one dozen (12 roses) for \$25 or two dozen (24 roses) for \$43. Create a linear function that expresses cost,  $C$ , as a function of quantity,  $q$ , of roses purchased. Give units for the slope.

2. The price of gasoline has been decreasing at a linear rate of 2 cents per day since Independence Day (July 4th). By Thursday, July 10th the price is \$3.75 per gallon.

a. Express the price,  $p$ , of gasoline as a function of time,  $t$ , in days since Independence Day.

b. Find the vertical intercept of your function in (a) and interpret it in relation to the problem.

2

3. Complete the table of values for the linear function.

$x$	3	6	9	12	15
$f(x)$	54.5	77			

Write the equation of this linear function.

4. Decide whether the following functions are linear. Explain how you know *without* finding the equation of the line.

a.

$x$	2	4.5	7	9.5	12
$f(x)$	1.25	2.5	3.75	5	6.25

b.

$x$	3	5	8	12	17
$g(x)$	7	14	21	28	35

c.

$x$	5	7	10	14	19
$h(x)$	20	26	35	47	62