Math 111 Exam #2 Spring, 2002

Name: _____

Place your answer in the spaces provided. You must show your work to receive credit.

(8 pts) 1. The function C described by $C(F) = \frac{5}{9}(F - 32)$ gives the Celsius temperature, C, corresponding to the Fahrenheit temperature F. Find the Celsius temperature equivalent to $-4^\circ F$.

(10 pts) 2. Determine the slope and y-intercept of this equation.

$$4x - 3y = -6$$

slope =

y-intercept =

(8 pts) 3. For the given function, find:

(4 pts) a. $f(2)$.

(4 pts) b. all x-values for which $f(x) = 1$.

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a. $f(2)=$

b. $x =$ [ ]

(10 pts) 4. Find the value of k so that the line $y = kx + 7$ is parallel to the line $3x - 2y = 4$.

$k =$ [ ]

(10 pts) 5. Let $f(x) = -2x + 4$ and $g(x) = x^2 - 1$. Find and simplify each of the following:

(5 pts) a. $(f - g)(-1)=$ [ ]

(5 pts) b. $f(3)/g(3) =$ [ ]

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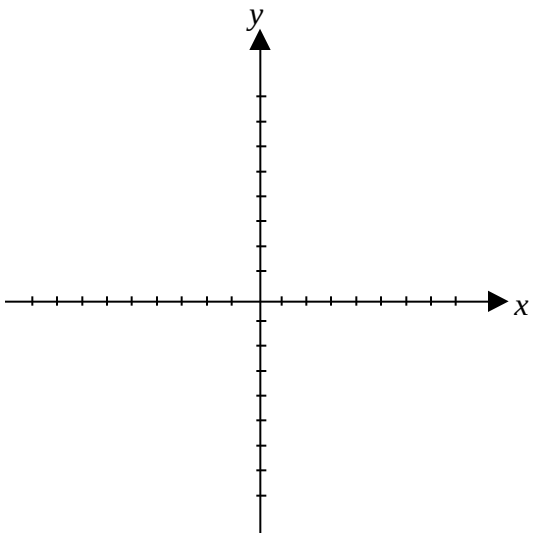
(10 pts) 6. Solve the following system of equations. Express your answer as an ordered pair.

$$2x - y = -4$$
$$3y - 11 = 4x$$

(12 pts) 7. Find the x- and y-intercepts for the equation $3x - 4y = 12$. Draw the graph. Label all the intercepts and at least one other point <u>on the graph</u>.



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(10 pts) 8. Frank bought a new Honda Civic for $15,000. If Civics depreciate at a rate of $3,000/yr,

(5 pts) a. find a function V that can be used to determine the value of the car t years after purchase.

$V(t)=$ [ ]

(5 pts) b. Use part (a) to find the domain of V.

domain = [ ]

(10 pts) 9. Tickets for the Pickled Lemon concert at Memorial Hall were $12 for students and $15 general admission. There were 950 tickets sold and the revenue from their sale was $11,634. Name the variables and translate this information into a system of equations, <u>but do not solve</u>.

[ ]

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(12 pts) 10. According to the Almanac, the cost of mailing a letter to Canada in 1999 was 51 cents for 1 oz and 95 cents for 3 oz.

(8 pts) a. Find a linear function that expresses the cost C of postage as a function of the weight w.

$C(w) =$ ☐

(4 pts) b. Use the function of part (a) to determine the cost of mailing a letter that weighs 4 oz.

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