## Algebra 1

Unit 4 PRACTICE Test
Name: $\qquad$
Date: $\qquad$ Block: $\qquad$

## Answer each question as best you can. Show all your work for full credit.

1. The perimeter of a rectangle is 40 inches.

The length of the rectangle is two inches more than three times the width.
Find the dimensions of the rectangle.
GOOGLE: SOLVING SYSTEMS PERIMETER WORD PROBLEMS
a) Label the diagram on the right:
b) Write the equation(s) that model(s) the situation:
$\qquad$
c) What is the length and width of the rectangle? Verify your solution is correct.

Length: $\qquad$
Width: $\qquad$
2. Ming's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 3 senior citizen tickets and 9 child tickets for a total of $\$ 75$. The school took in $\$ 67$ on the second day by selling 8 senior citizen tickets and 5 child tickets. What is the price of a senior citizen ticket and the price of a child ticket?

## GOOGLE: SOLVING SYSTEMS WORD PROBLEMS USING SUBSTITUTION OR ELIMINATION

a) Define the variables (let statements):
$\qquad$
b) Write a system of equations to model the situation: $\qquad$
c) What is the price of each ticket? Verify your solution is correct.
3.


## a) GOOGLE: ANALYZING GRAPHS OF SYSTEMS

How much more does the blue cab cost initially compared to the yellow cab? How do you know?
b) Estimate the solution of this system of equations and explain its meaning in the context of this problem.
4. Identify which is the best method to use to solve each system of equations below, then solve showing all work and verify your solutions. (You may need to show ALL of your work on another sheet of paper.)

## GOOGLE: USING THE BEST METHOD TO SOLVE SYSTEMS OF EQUATIONS

## Substitution Elimination Graphing

(Circle one)
a) $3 x-3 y=-4$
$-18 x+18 y=18$

## Substitution Elimination Graphing

(Circle one)
b) $7 x+2 y=24$
$2 y=-8 x+30$

## Substitution Elimination Graphing <br> (Circle one)

c) $\quad y=5 x-7$
$-3 x-2 y=-12$

Solution: $\qquad$


You are not required to use these graphs. You may use them to solve by graphing or for checking your solutions.
5. The graph below illustrates two siblings' bank balances.

## GOOGLE: ANALYZING GRAPHS OF SYSTEMS \& WRITING EQUATIONS OF LINES GIVEN TWO POINTS


a) Write the equation for the line that contains the points $(5,7)$ and $(10,22)$. (Hint: You may want to refer to your notes on Tab 2, Page 22.)
b) Find the exact solution algebraically and explain its meaning in the context of this problem.

