Name: **KEY**   Period: _____

Unit 5 Review
Writing Systems

1. $2\ell + 2w = 84$ $\ell = \overset{\curvearrowleft}{+4}$ 2. w

The perimeter of a rectangle is 84 cm. The length is 4 more (than) twice the width.
Write two equations that would be used to solve the system.   *Sling shot

Variable: **length : ℓ**   Equation: $2\ell + 2w = 84$

Variable: **width : w**   Equation: $\ell = 2w + 4$

2. A cash register contains 53 coins worth $4.40. They are all nickels and dimes. Write
two equations that would be used to solve the system.

Variable: **Nickels : n**   Equation: $n + d = 53$

Variable: **Dimes : d**   Equation: $.05n + .10d = 4.40$

3. McKinney Boyd Theatre sold 210 tickets and collected a total of $1530 in ticket sales
for the Sunday matinee of *Peter Pan*. Admission was $12.00 for adults and $7.00 for
children. Write two equations that would be used to solve the system.

Variable: **Adults : A**   Equation: $A + C = 210$

Variable: **Children : C**   Equation: $12A + 7C = 1530$

4. At Putt-Putt and games the cost of 2 games of golf and 4 games of pool is $24.00. The total
cost for 3 games of golf and 5 games of pool is $32.50. Write two equations that would be
used to solve the system.

$\overset{2g}{~}$ $\overset{+4p}{~}$ $\overset{=24}{~}$

Variable: **Golf : g**   Equation: $2g + 4p = 24$

Variable: **Pool : p**   Equation: $3g + 5p = 32.50$

5. Gaby the gabber likes to text messages to her friends using her cell phone. She is
charged $0.10 each time she types a message plus $50 for the phone plan. She is only
allowed to have a bill that is at most $60. Write an inequality in terms of the number of
messages, m, that she can text each billing cycle.

6. Jimmy started a savings account for an iPhone. He saved $30 last month and plans to
add $20 each month until he has saved more than $300. Write an inequality in terms of
the number of months, m, that he has to save for the iPhone.

Unit 5 Review

Solving for y (y = mx + b)

1) 3x + 2y = 8

$\frac{-3x \quad\quad -3x}{\frac{2y}{2} = \frac{-3x}{2} + \frac{8}{2}}$

$y = -\frac{3}{2}x + 4$

2x – 3y = -12

$\frac{-2x \quad\quad -2x}{\frac{-3y}{-3} = \frac{-2x}{-3} \quad \frac{12}{-3}}$

$y = \frac{2}{3}x + 4$

Solve the system (write answer as an ordered pair) $\boxed{(0,4)}$

Graph, 2nd trace, 5, Enter (3x)

★ Use Elimination (Linear Combination)

2. $+\ \begin{array}{l} 2x + 5y = -7 \\ 3x - 5y = 27 \end{array}$

$\frac{5x}{5} = \frac{20}{5}$

$x = 4$

Now solve for y

$2x + 5y = -7$
$2(4) + 5y = -7$
$5y = -15$
$y = -3$

Solve the system (write answer as an ordered pair) $\boxed{(4, -3)}$

3.
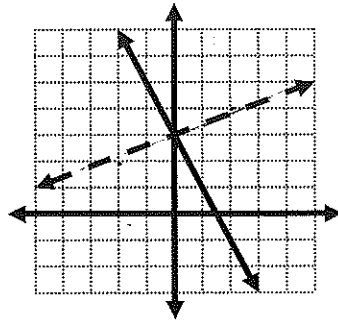
What is the y value of the solution to this system of equations? $\boxed{y = 3}$

(0, 3)

4. Give an example of two tables that contain a solution to a system of equations..

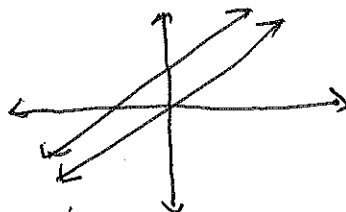| x	y
-1	5
0	3
1	1

x	y
-2	3
0	3
2	4

same x-value
&
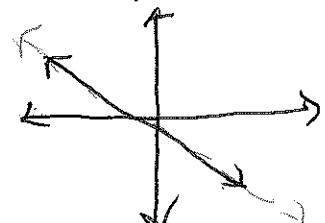same y-value
↑ different slope

5. Show three graphs showing the 3 different possible number of solutions to a system of equations. (label each)

One Solution

No Solution

Infinitely many Solutions