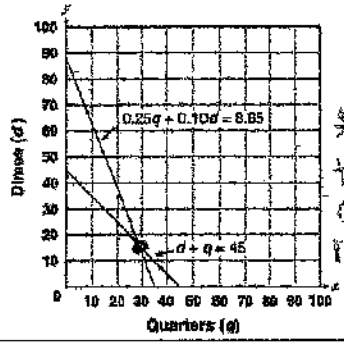
Student Name: Halley Holder Date: 1/24/17 Class Period: 1st

Question	Notes
1. **Given: $-10x + 2(3x + 5) = -2x$** **Step 1: $-10x + 6x + 10 = -2x$** **Step 2: $-4x + 10 = -2x$** **Step 3: $-4x + 4x + 10 = -2x + 4x$** **Step 4: $0 + 10 = 2x$** **Step 5: $10 = 2x$** **Step 6: $5 = x$**	1. Distrubitive 2. combine like terms 3. addition property of equality 4. combine like terms 5. Simply -76. ÷ property of =
2. **Jane has $7.50 to spend in the candy store. She likes lollipops and gumballs. Each lollipop costs $2.75, and each gumball costs $0.50.** **If Jane decides to buy 1 lollipop, then what is the greatest number of gumballs Jane can buy?**	x = lollipop y = gumballs (2.75) (0.50) $\frac{7.50 - 2.75}{0.50} = \frac{4.75}{0.50} = 9$ * 9 Gumballs
3. Describe the steps that would be used to solve $\frac{4x+1}{3}=11$	1. $\frac{4x+1}{3} = 11$ 3) multiply 3 2. $4x+1 = 33$) simply 3. $4x+1 = 33$) subtract 1 4. $4x = 32$) Simply 5. $4x = 32$) divison of = 6. $\frac{4x}{4} = \frac{32}{4}$ (simply) $x = 8$
4. **On Thursday, Sycamore Pavilion sold 108 student tickets and 177 adult tickets to a concert and had total sales of $6192. The sum of the student ticket price and the adult ticket price was $42.** **On Saturday, Sycamore Pavilion expects to sell 132 student tickets and 201 adult tickets to a concert for total sales of $7200. Tickets cost the same price for this concert as they did for the concert on Thursday.** **Use the following table to enter the price of a student ticket and the price of an adult ticket for Saturday's concert.**	x = student y = adult $-24 = a$ $108x + 177y = 6192$ $18 = 5$ $-108(x + y = 42)$ $108x + 177y = 6192$ $y = 24$ $-108x - 108y = -4,536$ $x = 18$ $\frac{69y}{69} = \frac{1656}{69}$
5. **A store sells 2 packages of light bulbs and a lamp for a total cost of $50. Bonnie wants to spend $120 to buy 4 packages of light bulbs and 3 lamps to use in her home.** **After seeing the lamps at the store, Bonnie decides to increase the number of packages of light bulbs and the number of lamps that she buys so that she can use them in her work office as well as in her home. She ends up spending $220 buying 8 packages of light bulbs and a certain number of lamps.** **Assume that in a system of two linear equations, replacing one equation with the sum of that equation and a multiple of the other equation produces a system with the same solutions. Using this assumption, how many lamps would Bonnie buy if the cost per package of light bulbs and cost per lamp stays the same?**	x = bulbs y = lamp $-2(2x + y = 50)$ $4x + 3y = 120$ $-4x - 2y = -100$ $y = 20$ lamps $2x + 20 = 50$ $-20 \quad -20$ $\frac{2x}{2} = \frac{30}{2}$ $x = 15$ b $\frac{220 - 8(15)}{20} - \frac{220 - 20}{20} = \frac{100}{20}$ 5 lamps

Student Name: Hailey Holder Date: 1/24/17 Class Period: 1st

KC1.9

6. **Manuel has a bowl of quarters and dimes. There are 45 coins totaling $8.85. To find the number of each coin, Manuel used a system of linear equations and graphed them in the coordinate plane. Based on the graph how many quarters are in the bowl?**

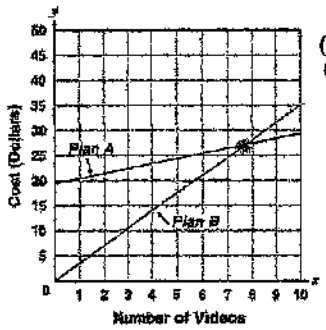


30 quarters

*look at where the lines meet and round if needed

KC1.10

7. **Chelsea can choose from 2 plans for streaming videos to her television. Plan *A* costs $19.95 initially and has a charge of $1.00 per video. Plan *B* has no initial charge and has a charge of $3.50 per video. The equation for each plan is graphed in the coordinate plane. Based on the graph, what is the minimum number of videos Chelsea should stream so that the costof Plan *A* is less than Plan *B*?**



8 videos

KC1.11

8. **Josh needs to solve the system of equations below. He decides to use the elimination method to cancel out the *x* terms in order to first solve for *y*.**

$\begin{cases} 4x + 5y = 7 \\ 2x - 3y = 9 \end{cases}$ **Josh uses the following steps:**

Step 1: $4x + 5y = 7$
$-2(2x) - 3y = 9$
Step 2: $4x + 5y = 7$
$-4x - 3y = 9$
Step 3: $2y = 16$
Step 4: $y = 8$
Did Josh use the correct steps to solve for *y*?

A. Yes, Josh correctly solved for *y*.
B. No, Josh should have multiplied $2x$ by 2 instead of by -2.
C. No, Josh should have multiplied the entire second equation by -2.
D. No, Josh should have multiplied the entire second equation by -4.

$4x + 5y = 7$
$-2(2x - 3y = 9)$

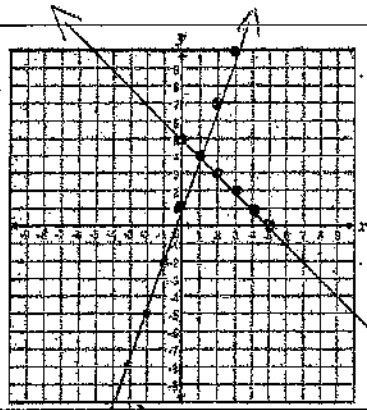
$4x + 5y = 7$
$-4x + 6y = -18$

KC1.9

9. **If Jess wants to graph the solution to the system of equations below, which of the following graphs would represent the solution?**

$3x - y = -1$
$x + y = 5$

$x + y = 5$
$-x \quad -x$
$y = -1x + 5$

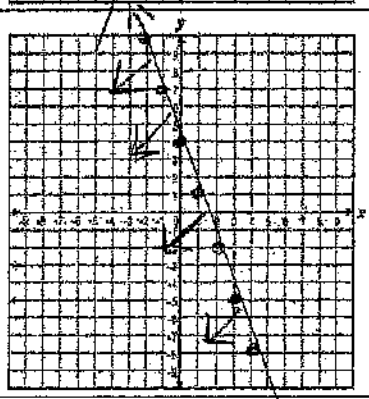


$3x - y = -1$
$-3x \quad -3x$
$-1y = -3x - 1$
$-1 \quad -1 \quad -1$
$y = 3x + 1$

(1, 4)

KC1.14

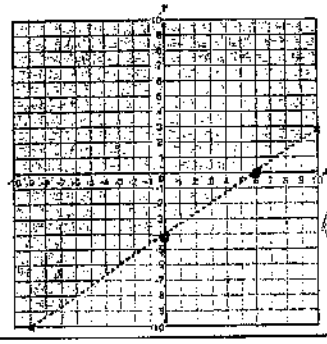
10. **What is the graph of the linear inequality $y \leq -3x + 4$?**



Student Name: _____ Date: _____ Class Period: _____

KC1.14

11. Which inequality does this graph represent?



① find y-intercept
② Find a point at an intersection on your line, place a dot
③ count rise to get slope run
4. put in y-intercept form for m

Write the equation in slope intercept and standard form.

$B = -4$

$m = \frac{4}{6} = \frac{2}{3}$

$y > \frac{2}{3}x - 4$ Slope ↑

$3(y > \frac{2}{3}x - 4)$

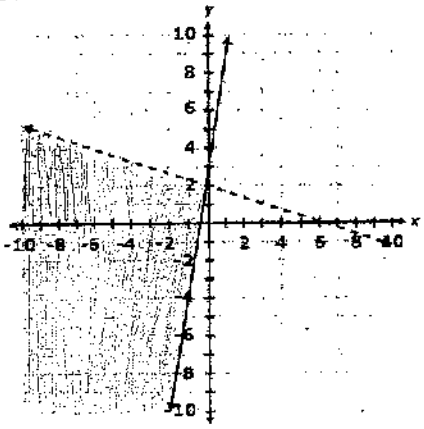
$3y < 2x - 12$

$-2x \quad -2x$

$3y - 2x > -12$ ↑ Standard

KC1.14

12.



Select the solutions to the system of inequalities from the following points. Select *two* that apply.

(A) (–5, 3)
B. (1, –2)
C. (0, –4)
(D) (–8, –1)

A / D

KC1.14

13. A system of linear inequalities is shown below.

$y \geq -2x - 3$

$y < \frac{1}{2}x + 1$

Which of the following ordered pairs is a solution to the graph of the system of inequalities? Select two that apply.

A. (–4, 1)
B. (–3, –4)
(C) (0, –3)
D. (0, 1) → not part of the solution bc
(E) (5, –2) it was on the dotted line

C / E

KC1.3

14. Solve the system of equations:

$\begin{cases} 2x - y = 4 \\ y - x = 4 \end{cases}$

x and why must line up w/ y

(8, 12)

$2x - y = 4$

$-(y - x = 4)$

$y - 8 = 4$

$+8 \quad +8$

$y = 12$

$2x - y = 4$

$-x + y = 4$

$\frac{1x}{1} = \frac{8}{1}$ $x = 8$

KC1.2

15. The **school district is planning on buying new desks for its classrooms. Each secondary classroom is to have 5 more desks than an elementary classroom. For 20 elementary classrooms and 25 secondary classrooms, a total of 1115 desks are needed. The system of equations below represents this situation.**

$y = x + 5$

$20x + 25y = 1115$

How many desks are to be in each secondary classroom?

$y = x + 5$

$20x + 25y = 1115$

$20x + 25(x + 5) = 1115$

$20x + 25x + 125 = 1115$

$45x + 125 = 1115$

$-125 \quad -125$

$\frac{45x}{45} = \frac{990}{45}$

$x = 22$

$x = 22$

$y = 27$

$y = 22 + 5$

$y = 27$

KC1.5

16. Identify the solution to the system of equations below.

$\begin{cases} 6x + 3y = 9 \\ y = -2x + 3 \end{cases}$

A. (0, 0)
B. (9, 9)
C. no solution
(D) infinitely many solutions

Student Name: _____ Date: _____ Class Period: _____

17. **Leslie determined that the system of equations below has infinitely many solutions. Is she correct?** $\begin{cases} x = 4y - 4 \\ 2x - 8y = -24 \end{cases}$	Solve the system to answer the question. $2(4y-4) - 8y = -24$ $8y - 8 - 8y = -24$ $-8 = -24$ No Solution
18. **Solve the system of equations below.** $\begin{cases} 2x - y = 3 \\ x + 2y = -6 \end{cases}$ $(0, -3)$	$2x - y = 3$ $-2(x + 2y = -6)$ $2x - 3 = 3$ $+3 \quad +3$ $\frac{2x}{2} = \frac{0}{2}$ $x = 0$ $2x - y = 3$ $-2x - 4y = 12$ $\frac{-5y}{-5} = \frac{15}{-5}$ $y = -3$

Additional Notes and Work Space:

16. $6x + 3y = 9$ $y = -2x + 3$

$6x + 3(-2x + 3) = 9$

$-6x - 6x + 9 = 9$

$9 = 9$

infite Solutions

$6x + 3y = 9$

$-3(2x + y = 9)$

$6x + 3y = 9$

$-6x - 3y = -9$

$0 = 0$

infite Solutions