

Math 2. Solving systems of Equations Test (from 2010).

Calculator and notes may be used throughout this test. Show all your workings. Don't forget to check your answers

Name _____

Q1. Solve each of the following questions using any method

a) $y = 2x - 1$

$y = x + 3$

b) $y = x - 2$

$x + 3y = 6$

c) $4x + 3y = 2$

$x - 3y = 8$

d) $3x + 4y = 13$

$2x + 4y = 10$

e) $5x - y = 19$

$y = 2x - 4$

f) $3x + 2y = 4$

$2x - y = 5$

g) $y = 2x$

$y = x - 2$

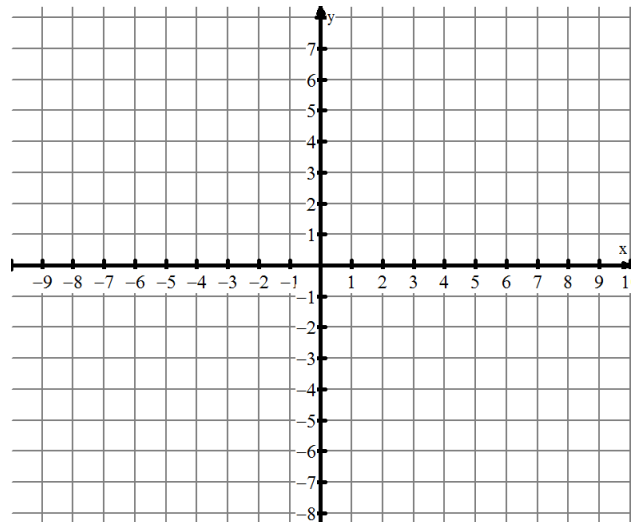
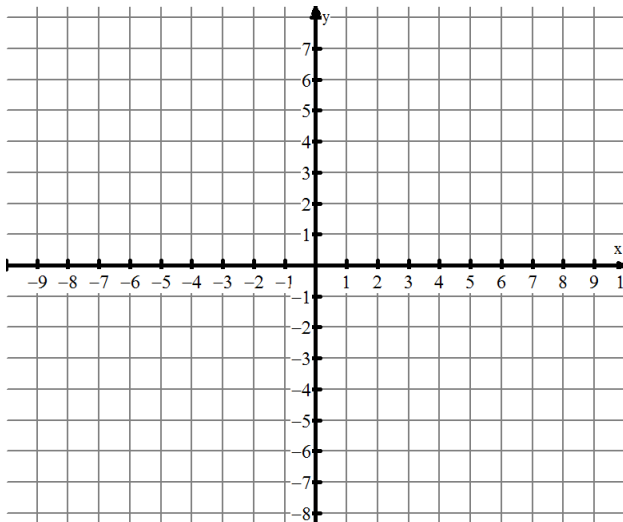
h) $3x - 2y = 3$

$4x + 3y = 4$

Q2. Use the grids below to graph the 2 lines. Use the graphs to then determine where the two lines intersect. State the appropriate conclusion after all the work has been completed. **(10M)**

$y = -x + 2$
(a) $y = \frac{1}{2}x + 5$

$y = 2x + 6$
(b) $y = \frac{2}{3}x + 2$



Q3a) 5 tins of colored paint and 3 tins of white paint costs \$29.
3 tins of colored paint and 3 tins of white paint costs \$21.
How much is a tin of colored paint? How much is a tin of white paint?

Q3c) I have some 20 peso notes and some 50 peso notes. I have 20 notes altogether. If the total value is 610 pesos, how many of each note do I have?

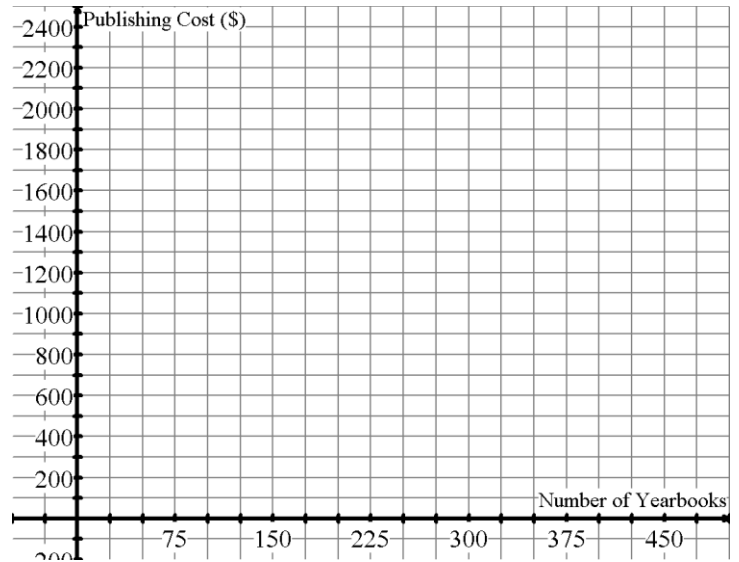
Q3d) In a furniture shop there are some chairs with 4 legs and some stools with 3 legs. There are 23 items altogether and a total of 86 legs. How many chairs are there? How many stools are there?

Q3e) Marie and Mark were comparing their collections of football cards. Marie noticed “if we combine our cards we have 100 cards altogether”. Mark said “if I had 8 more cards, I would have twice as many as you have”. How many cards did each have?

Q4) The yearbook club is considering two different companies to print the yearbook. The Descartes Publishing Company charges a one time fee of \$450 plus \$5.00 per book. School Memories charges a one time fee of \$600 plus \$4.50 per book. You will determine which company the yearbook club should select to print this year’s yearbook. To answer the question, complete the following:

- (a) The equation for School Memories is $C = 600 + 4.5x$, where C is the cost of the yearbooks and x is the number of yearbooks printed. Complete the table of values below
- (b) Write an equation for the cost of using Descartes Publishing Company. Complete the table of values included.
- (c) Graph the 2 lines on the grid provided.
- (d)

# of Yearbooks	Cost with School Memories	Cost with Descartes Publishing Company
0		
50		
200		
500		



- (e) Where do the two lines meet?
- (f) What is the meaning of the intersection point in the context of the yearbook publishing?
- (g) Which publisher would you advise the yearbook club to select? Why?