

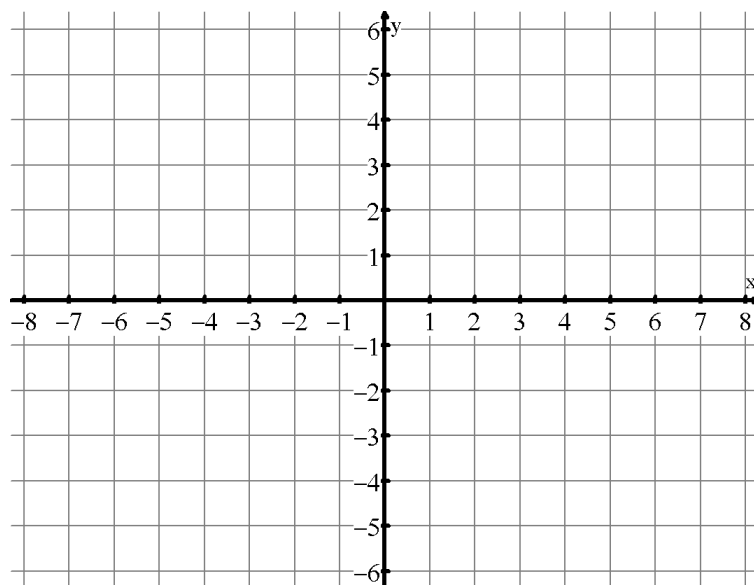
1. Solve the equation  $2(x + 4) - 3(2x + 1) = -1 - x$ . Verify your solution.

2. Determine the equation of a line passing through the point  $(4, -2)$  and having a slope of  $-3$ .

3. Use the grid to answer the next question

(a) Graph the line  $y = -\frac{1}{2}x + 3$  and the line  $y = 2x - 2$ .

(b) Determine where the two lines intersect.



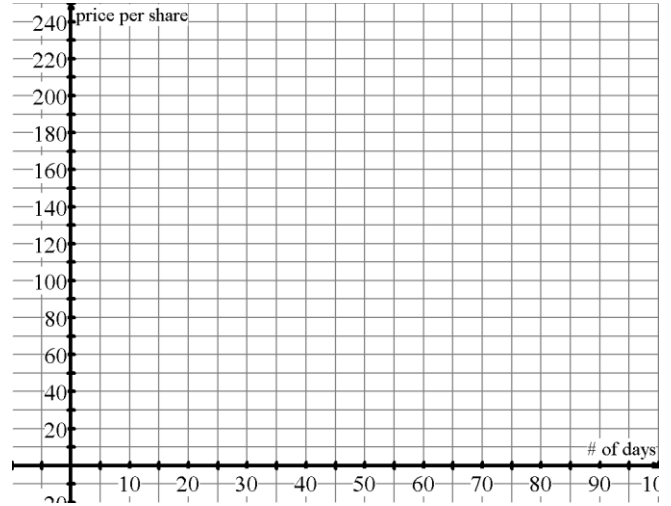
4. Use the substitution method to determine the intersection point of the lines  $y = -2x + 5$  and  $3x + 2y = 9$ .

5. Use the elimination method to determine the intersection point of the lines  $-2x + 3y = -5$  and  $3x + y = 13$ .

6. Mr Santowski follows the stock market and often records the prices of his stocks. On the 20<sup>th</sup> day of 2009, the value of the Apple stock was \$150. Then on the 45<sup>th</sup> day of 2009 (February 14<sup>th</sup>), the stock price was \$170.

(a) Graph the 2 points (20,150) and (45,170) on the grid.

(b) Using the 2 ordered pairs from Question (a), determine the slope of the line connecting the two points. Include the UNITS of the slope.



(c) Explain what the slope means in this question.

(d) Graph the line connecting the 2 points.

(e) Determine the equation of the line.

(f) Explain what the y-intercept means in this question.

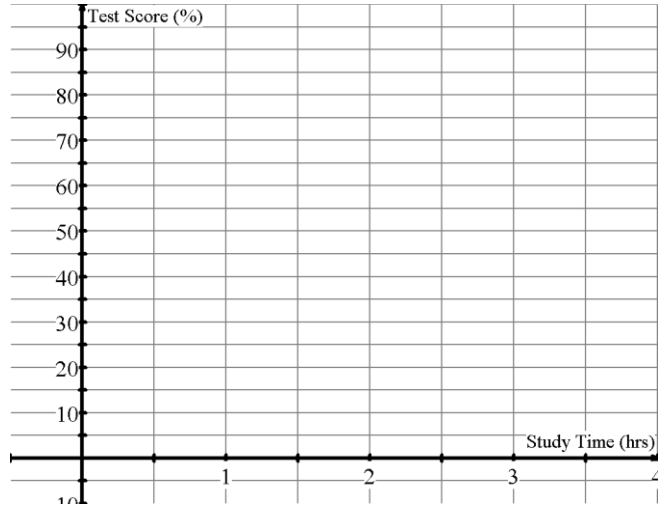
(g) What will be the expected stock price on March 16 (day #75)?

(h) When would the expected stock price be \$204?

7. Mr Santowski is conducting some research to determine the relationship between studying time and test scores. He compiles the following data from some of his classes:

Study time (hours)	0.5	1	1.5	2	2.5	3
Test scores	72%	75%	82%	89%	90%	93%

- (a) Plot the data on the grid.
- (b) Determine the average study time and the average test scores and plot this average (mean) point
- (c) Draw in the mean line of best fit
- (d) Determine the slope of the line.



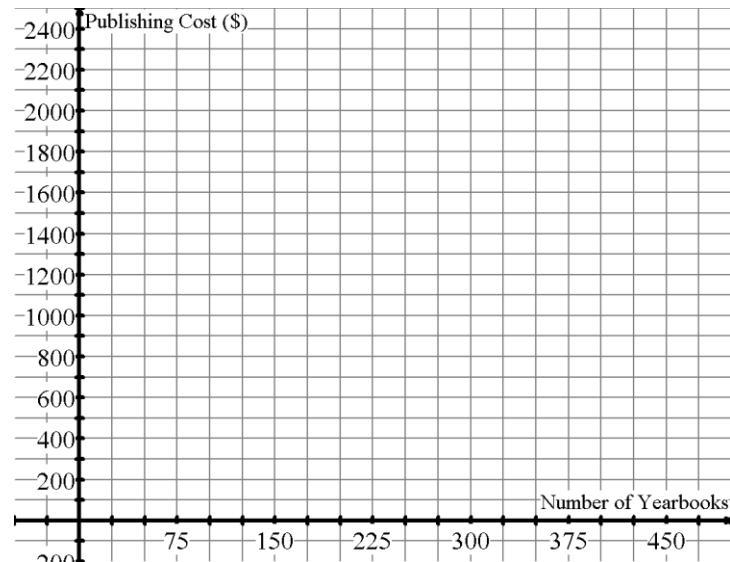
- (e) Determine the equation of the mean line of best fit.
- (f) If Nikki studies for 75 minutes, use your linear model to predict her test score.
- (g) If you want a test score of 85%, for how long should you study?

8. 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.

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



(d) Where do the two lines meet?

(e) What is the meaning of the intersection point in the context of the yearbook publishing?

(f) Which publisher would you advise the yearbook club to select? Why?