

Written Work

Do these problems on some clean paper. Label each page of your work with your name, your class, the date, and the book number. Also number each problem. Keep this written work inside your book, and turn it in with your book when you are finished. Please do a neat job.

1. Draw and label a pair of axes. Then graph each of these points.

(0, 5) (3, -4) (4, 3) (5, 0) (3, 4) (0, -5) (4, -3)

These points lie on a circle. Draw the circle and label four more points.

2. Graph the information in this table, which shows the speed (s) of a runner t seconds before (-) and after (+) the start of a race. Join the points smoothly.

t (seconds from start)	-5	-3	-1	0	1	2	3	4	5	6	7	8
s (speed in meters per sec.)	0	0	0	0	.5	2	5	7	8	8	8	8

3. Graph each linear equation by plotting three points. Make your table on a piece of plain paper. Draw all the graphs on the same pair of axes. Write the equation of each graph along the line.

$$3x + y = 19$$

$$x - 4y = 0$$

$$2x + 3y = 6$$

$$5x - y = 2$$

$$-2x + y = 5$$

$$x + 5y = 14$$

4. Graph each inequality. Then write an inequality for the *unshaded* part (the points which are not included in your graph).

$$y \geq \frac{1}{2}x + 3$$

$$y < -3x + 1$$

5. Graph the equations in each set below, using one pair of axes for each set. What do you notice about the graphs? What do the equations in each set have in common?

a) $y = \frac{-2}{5}x + 4$

b) $y = 3x + 2$

c) $y = x^2 - 8$

$$y = \frac{-2}{5}x - 6$$

$$y = -4x + 2$$

$$y = x^2 + 1$$

$$y = \frac{-2}{5}x$$

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

$$y = x^2 + 4$$

6. Draw a pair of axes on a piece of graph paper. Then draw a vertical line.

a) Write the equation of your line.

b) Pick two points on the line and try to use them to find its slope.

c) Explain why it is not possible to find a slope for a vertical line.

7. Plot the points (-3, 4) and (6, 1). Draw a line through the points and write its equation.

8. On a piece of plain paper, solve each equation for y . Then graph each equation using the slope and y -intercept.

$$4x + 2y = 12$$

$$x - 3y = -15$$

$$2x + 5y = 0$$