

Linear Equations - Nuts & Bolts Review

Complete each of the following questions either on a separate piece of paper or on the grid paper provided. Be sure to label any graphs clearly (what equation is being shown). You can obtain extra sheets of grid paper from the front.

1) Plot the following points onto 2 separate grids.

a) $A(3,4)$ $B(-6,-7)$ $C(-5,1)$ $D(0,-2)$ $E(4,0)$

b) $V\left(5\frac{1}{2}, -2\frac{1}{4}\right)$ $W\left(-1\frac{3}{4}, 4\frac{1}{2}\right)$ $X\left(-7\frac{1}{2}, -3\frac{1}{4}\right)$ $Y\left(2\frac{1}{2}, 5\frac{3}{4}\right)$

2) Draw 3 of your own table of values. Place the coordinates listed below into each table in the proper order.

a) $(-6,8)$ $(-1,9)$ $(5,-11)$ $(0,-4)$ $(7,12)$

b) $(0.9,1.2)$ $(-4.5,3.1)$ $(-8.4,-11.7)$ $(5.6,3.2)$ $(0.0,2.9)$

c) $\left(4\frac{3}{4}, 1\frac{1}{3}\right)$ $\left(-8\frac{2}{3}, -2\frac{1}{2}\right)$ $\left(-5\frac{1}{4}, 3\frac{3}{4}\right)$ $\left(\frac{2}{3}, -4\frac{1}{4}\right)$ $\left(6\frac{1}{2}, 4\frac{2}{3}\right)$

3) On a separate piece of paper, complete the following substitutions. State the final coordinates.

a) $y = 3x - 7$ when $x = -4$

e) $y = \frac{2}{3}x - 3$ when $x = 6$

b) $y = -5x + 4$ when $x = 3$

f) $y = \frac{1}{3}x + 7$ when $y = 11$

c) $y = 6x + 5$ when $y = 47$

g) $y = -\frac{1}{4}x + 8$ when $x = 8$

d) $y = -2x - 3$ when $y = -17$

h) $y = -\frac{3}{4}x - 6$ when $y = -12$

4) On the grid paper provided, draw the horizontal & vertical lines as indicated by the equations below. You can draw more than one line per grid (just be sure to label!)

a) $y = -7$

b) $x = 4$

c) $y - 5 = 0$ $y = 5$

d) $y - 3 = 0$ $y = 3$

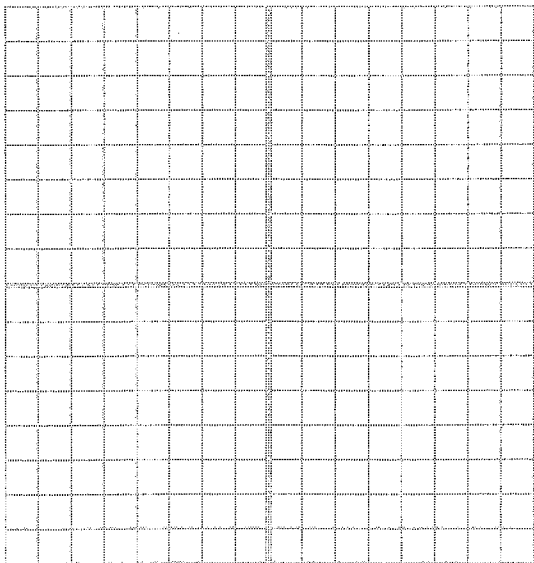
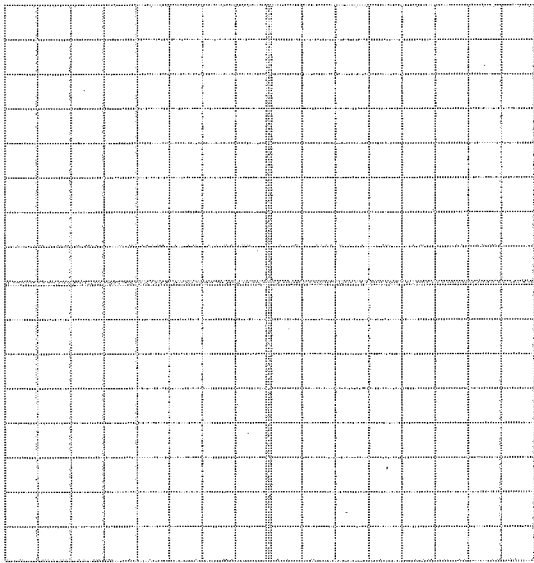
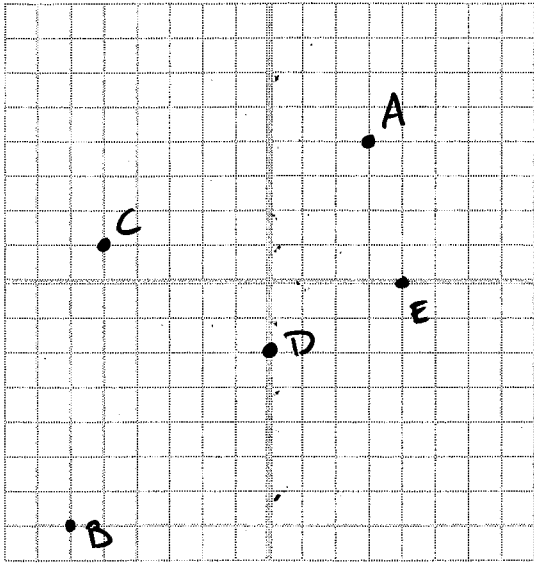
e) $4x = 20$ $x = 5$

f) $7y = 42$ $y = 6$

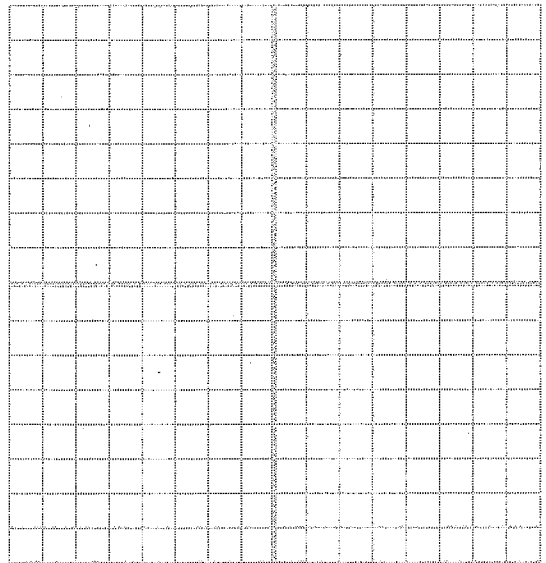
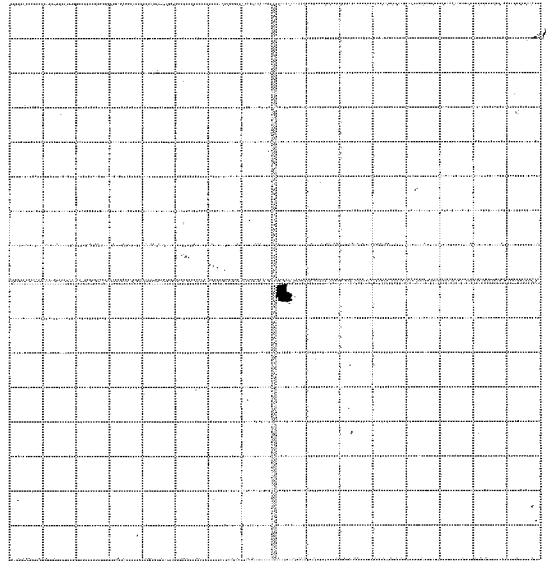
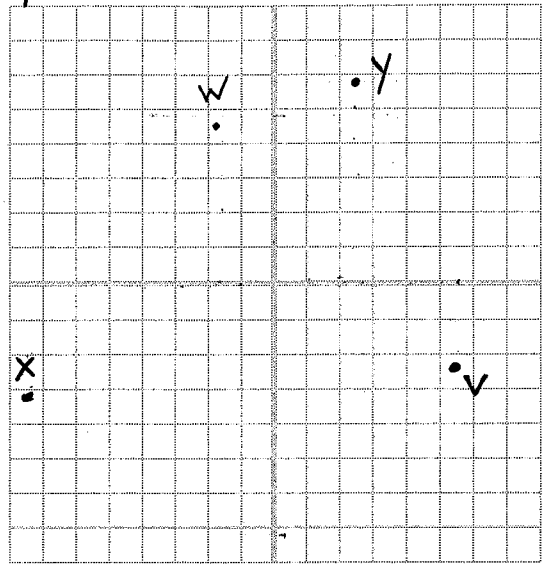
g) $-x + 4 = 0$ $x = 4$

h) $6 - y = 0$ $y = 6$

1.a)



b)



2. a)

x	y
-6	8
-1	9
0	-4
5	-11
7	12

b)

x	y
-8.4	-11.7
-4.5	3.1
0.0	2.9
0.9	1.2
5.6	2.3

c)

x	y
$-8\frac{2}{3}$	$-2\frac{1}{2}$
$-5\frac{1}{4}$	$3\frac{3}{4}$
$\frac{2}{3}$	$-4\frac{1}{4}$
$4\frac{3}{4}$	$1\frac{1}{3}$
$6\frac{1}{2}$	$4\frac{2}{3}$

3. a) $y = 3x - 7, x = -4$

$$y = 3(-4) - 7$$

$$= -19$$

$(-4, -19)$

b) $y = -5x + 4, x = 3$

$$y = -5(3) + 4$$

$$y = -11$$

$(3, -11)$

c) $y = 6x + 5, y = 47$

$$47 = 6x + 5$$

$$\begin{array}{r} -5 \\ -5 \end{array}$$

$$\frac{42}{6} = \frac{6x}{6}$$

$$x = 7$$

$(7, 47)$

d) $y = -2x - 3, y = -17$

$$-17 = -2x - 3$$

$$\begin{array}{r} +3 \\ +3 \end{array}$$

$$\frac{-14}{-2} = \frac{-2x}{-2}$$

$$x = 7$$

$(7, -17)$

e) $y = \frac{2}{3}x - 3, x = 6$

$$y = \frac{2}{3}(6) - 3$$

$$= 4 - 3$$

$$= 1$$

$(6, 1)$

f) $y = \frac{1}{3}x + 7, y = 11$

$$11 = \frac{1}{3}x + 7$$

$$\begin{array}{r} -7 \\ -7 \end{array}$$

$$3 \cdot 4 = \frac{1}{3}x \cdot 3$$

$$12 = x$$

$(12, 11)$

$$g) y = -\frac{1}{4}x + 8, x = 8$$

$$y = -\frac{1}{4}(8) + 8$$

$$= -2 + 8$$

$$= 6$$

$$(8, 6)$$

$$h) y = -\frac{3}{4}x - 6, y = -12$$

$$-12 = -\frac{3}{4}x - 6$$

$$+6 \quad \quad \quad +6$$

$$4 \cdot -6 = -\frac{3}{4}x \cdot 4$$

$$\frac{-24}{-3} = \frac{-3x}{-3}$$

$$8 = x$$

$$(8, -12)$$

5) On the grid paper provided, graph the following lines using the y-intercept as the starting point. Each line will form a diagonal line (up one, over one).

a) $y = x + 4$

b) $y = x - 3$

c) $y = -x + 1$

d) $y = -x - 6$

e) $y + 4 = x$ $y = x - 4$

f) $y - x = 2$ $y = x + 2$

g) $y - 6 = -x$ $y = -x + 6$

h) $y + x = -1$ $y = -x - 1$

6) On the grid paper provided, graph the following lines using the origin as a starting point.

a) $y = \frac{1}{3}x$

b) $y = -\frac{1}{2}x$

c) $y = \frac{2}{3}x$

d) $y = -\frac{3}{4}x$

e) $y = -3x$

f) $y = 2x$

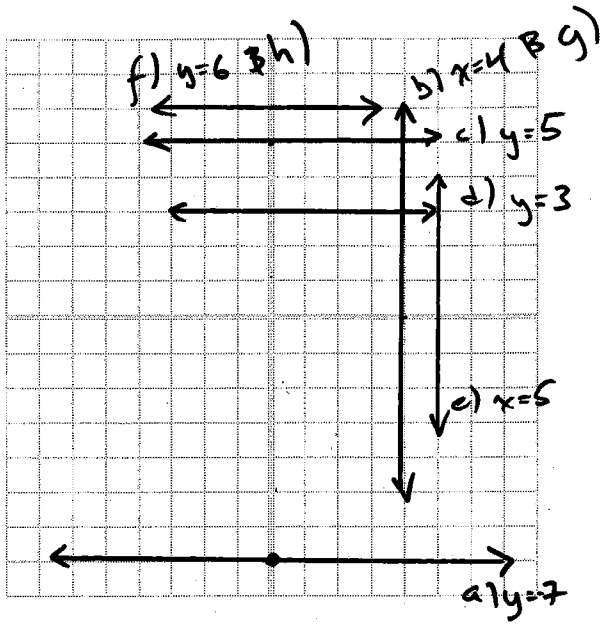
g) $y = -x$

h) $y = x$

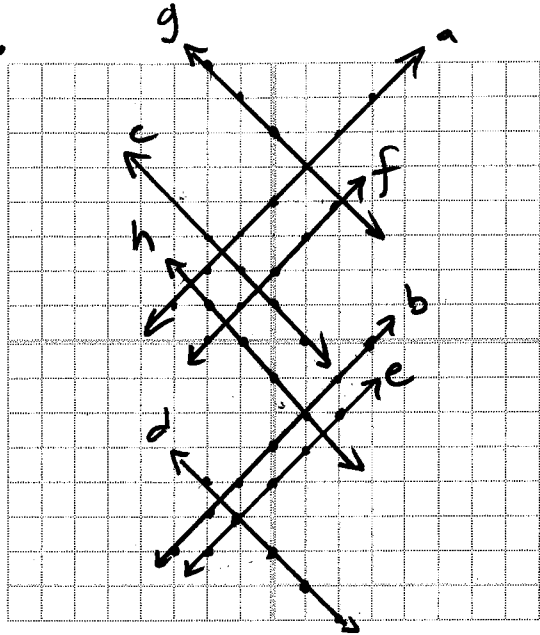
Textbook:

Pg. 201-2, #5, 8, 9 (no graph), 10

4.



5.



6.

