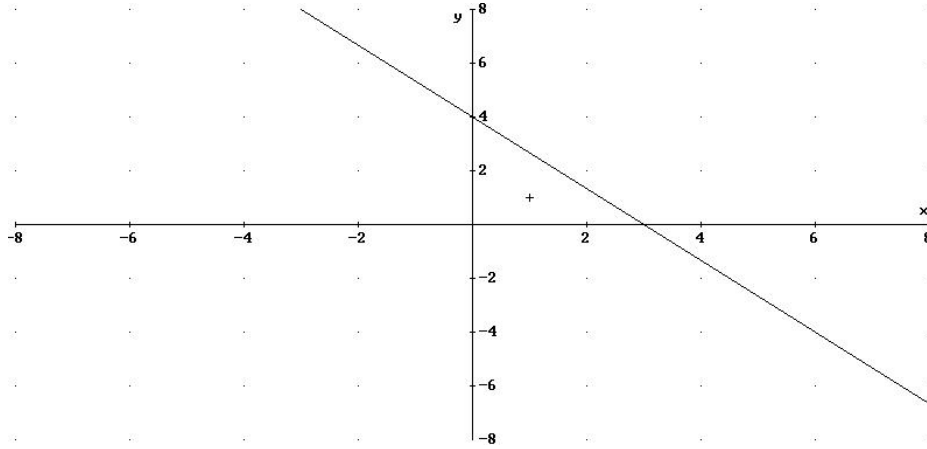


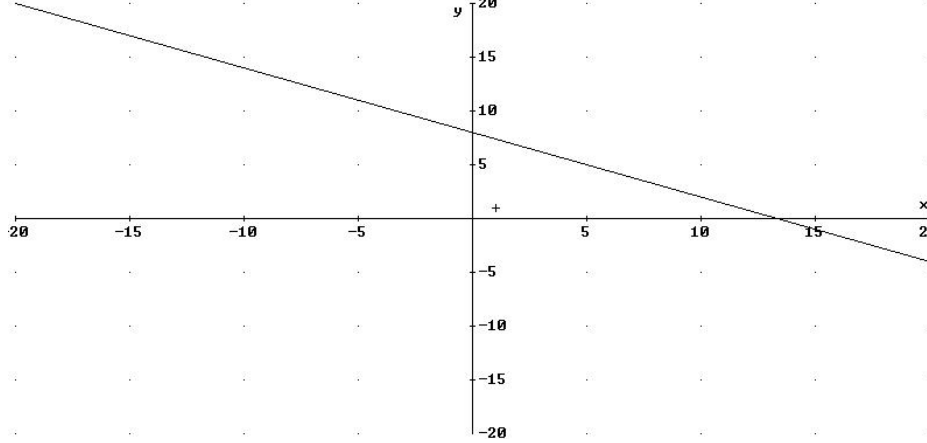
Linear Functions

1. Graph using the indicated method:

a) Table of Values: $4x + 3y = 12$



b) Using slope and y-intercept: $3x + 5y = 40$



2. Determine the information requested

a) Given the points $(-7, -4)$ and $(9, 2)$ find

i) slope

$$m = \frac{6}{16} = \frac{3}{8}$$

ii) midpoint

$$M\left(\frac{2}{2}, -\frac{2}{2}\right) = M(1, -1)$$

iii) distance between points

$$d = \sqrt{292}$$

b) from the equation $7x - 3y = 21$ determine

i) y-intercept

$$b = -\frac{21}{3} = -7$$

ii) x-intercept

$$x = 3$$

iii) slope of a line parallel to given line

$$m = \frac{7}{3}$$

iv) slope of a line perpendicular to given line

$$m = -\frac{3}{7}$$

3. Determine the equation of the line given:

a) $m = -2/3$ and $b = 5$

$$3y = -6x + 15$$

b) $m = 3/4$ and contains point $(-5, 3)$

$$4y = 3x + 27$$

c) passes through the points (4, 7) and is parallel to y-axis

$$x = 4$$

d) passes through the point (-2, 5) and is perpendicular to y-axis

$$y = 5$$

e) passes through the point (-2, 1) and is parallel to a line passing through points (-5, 3) and (7, 9)

$$m = \frac{1}{2}, \quad 2y = x + 4$$

f) passes through the point (-4, -2) and is perpendicular to a line having an equation of $4x - 5y = 6$

$$m_1 = \frac{4}{5}, \quad m_2 = -\frac{5}{4}, \quad 4y = -5x - 28$$

g) the equation of the perpendicular bisector of a line segment defined by the points (9, -2) and (-7, 6).

$$m_1 = -\frac{1}{2}, \quad m_2 = 2, \quad M(1, 2), \quad y = 2x$$