

Linear Functions

1. Define the following terms:

a) slope _____

b) y-intercept _____

c) x-axis _____

d) coordinate plane _____

e) linear function _____

2. Determine the following information:

a) slope and y-intercept of the equation $-5x + 2y = 7$

b) the slope of the line segment joining the points $(-7, 3)$ and $(4, 8)$

c) the midpoint of the line segment defined by having endpoints of $(3, -8)$ and $(11, 4)$

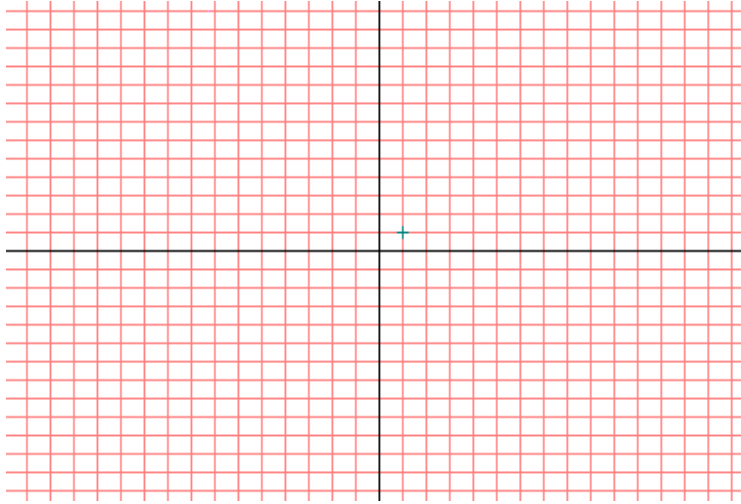
d) the distance between the points $(-4, 7)$ and $(-3, -9)$

e) the slope of a line that is parallel to the line with equation $4x - 7y = 11$

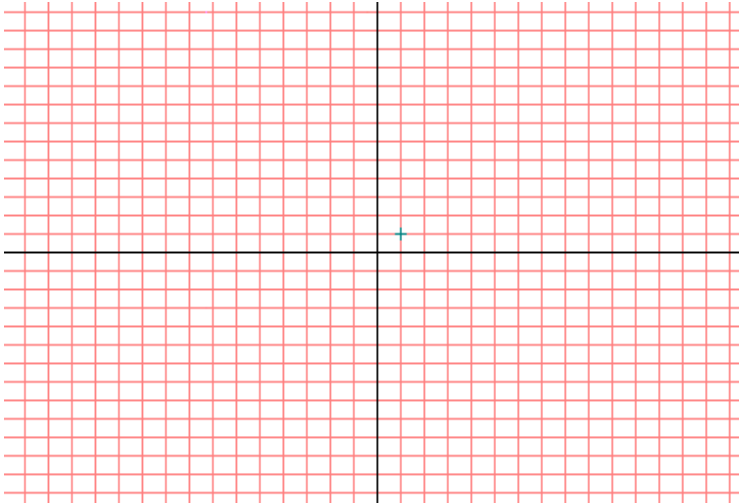
f) the slope of the line perpendicular to another line that has a slope of $5/7$

3. Graph the following equations using the indicated method:

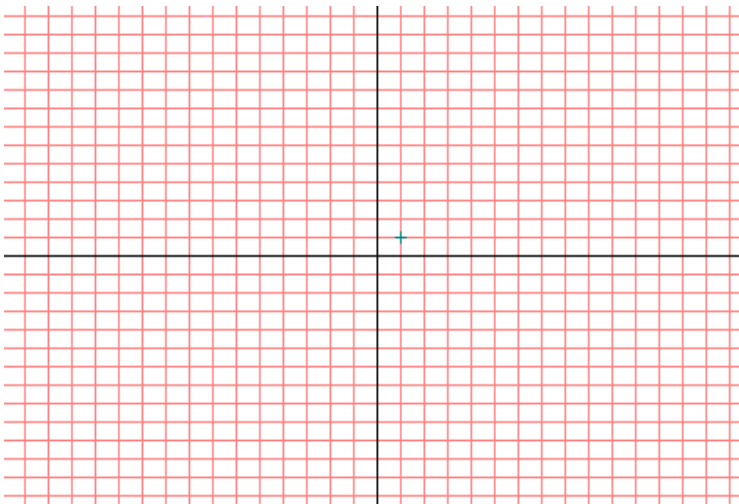
a) Table of values: $4x - 2y = -8$



b) Intercept method: $-5x + 3y = 15$



c) Slope intercept method: $2x + 3y = 12$



4. Determine the equation of the line given the following information:

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

b) $m = -3/4, b = 2$

c) $m = 5/7$ passing through $(0, -4)$

d) $m = -3$ passing through $(-3, 4)$

e) $m = -5/3$ passing through $(-2, -6)$

f) passing through the points $(-3, 5)$ and $(-1, 6)$

g) through $(5, 2)$ parallel to $3x - 2y = 6$

h) through $(-3, 5)$ perpendicular to $-4x + y = 6$

i) through the point $(3, -7)$ and parallel to the x-axis

j) through the point $(-4, -6)$ and perpendicular to the x-axis

k) through $(3, -2)$ parallel to the line passing through $(4, 8)$ and $(6, 16)$

l) through $(-5, 1)$ perpendicular to the line passing through $(-5, 2)$ and $(5, 6)$

m) perpendicular bisector of the line segment defined by the endpoints $(3, 2)$ and $(-9, 10)$