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Graphing Linear Equations

1. Graph the lines between each of the following points and find the slope of each line.

(a) (2,1) & (4,2)

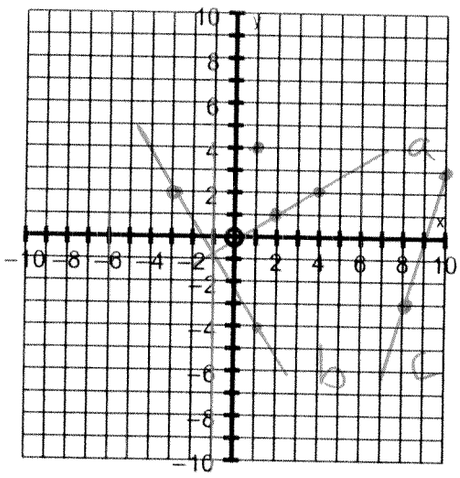
Slope = $\frac{2-1}{4-2} = \frac{1}{2}$

(b) (-3,2) & (1,-4)

Slope = $\frac{-4-2}{1-(-3)} = \frac{-6}{4} = \frac{-3}{2}$

(c) (8,-3) & (10,3)

Slope = $\frac{3-(-3)}{10-8} = \frac{6}{2} = 3$



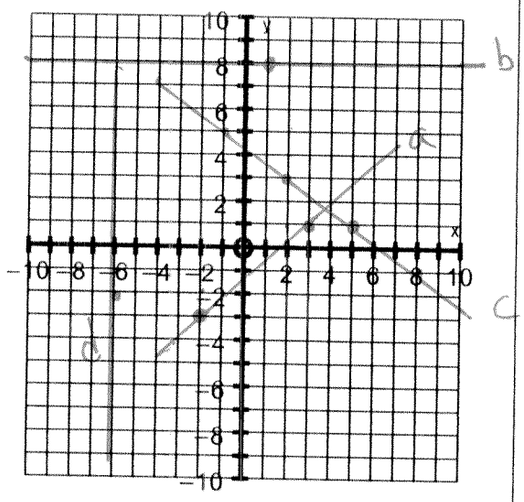
2. Graph the lines that contain the points and have the slopes listed.

(a) (-2,-3); $m = \frac{4}{5}$

(b) (2,3); $m = -\frac{2}{3}$

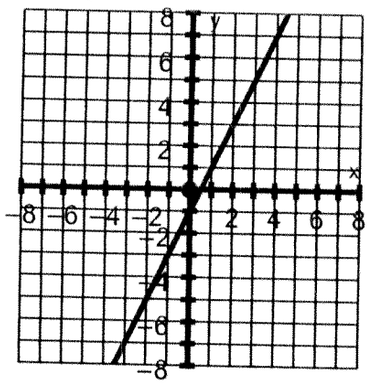
(c) (1,8); $m = 0$

(d) (-6,-2); m is undefined

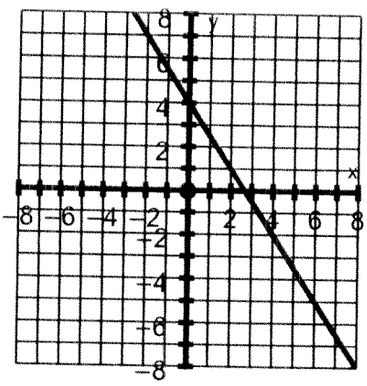


3. For each of the following graphs, find the slope (m), the y-intercept (b), and then give the equation of the line in the form of y = mx + b.

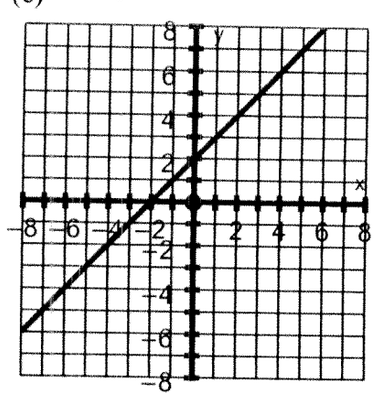
(a) $y = 2x - 1$



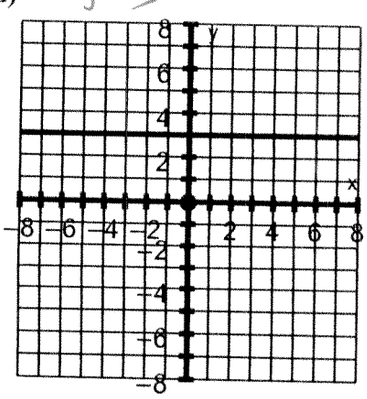
(b) $y = -\frac{3}{2}x + 4$



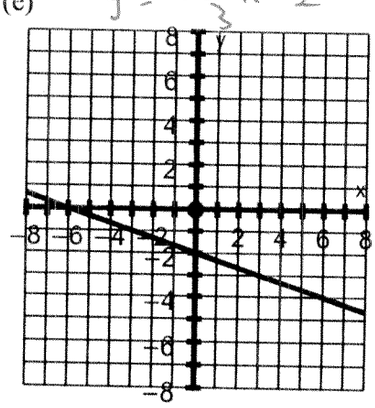
(c) $y = x + 2$



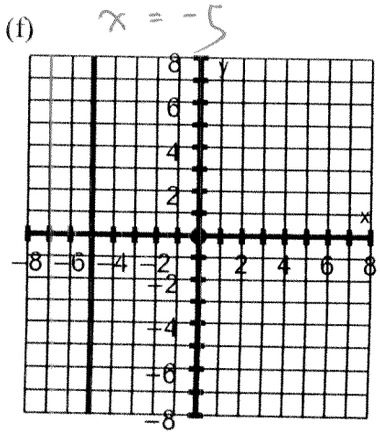
(d) $y = 3$



(e) $y = -\frac{1}{3}x - 2$



(f) $x = -5$



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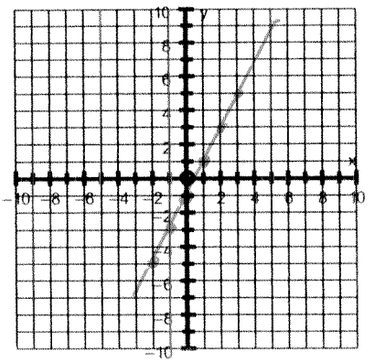
4. Graph each of the following lines:

(a) $y = 2x - 1$

slope = 2

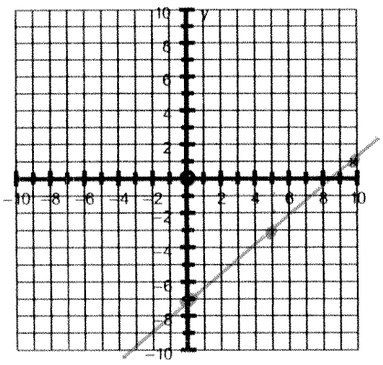
y-int. = -1



(b) $y = \frac{4}{5}x - 7$

slope = $\frac{4}{5}$

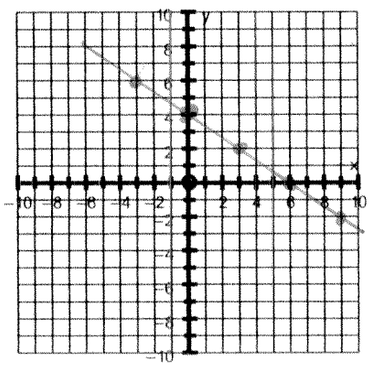
y-int. = -7



(c) $y = -\frac{2}{3}x + 4$

slope = $-\frac{2}{3}$

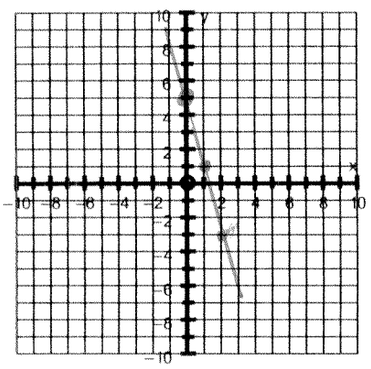
y-int. = 4



(d) $y = -4x + 5$

slope = -4

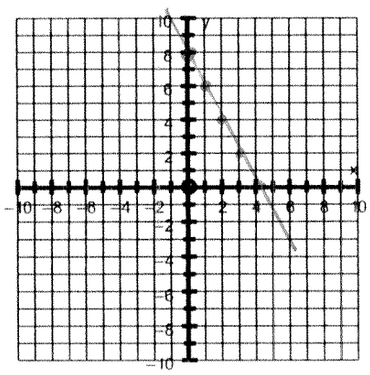
y-int. = 5



(e) $y = -2x + 8$

slope = -2

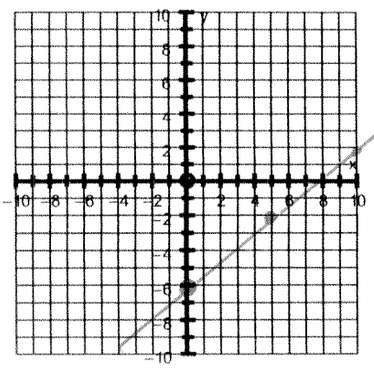
y-int. = 8



(f) $y = \frac{4}{5}x - 6$

slope = $\frac{4}{5}$

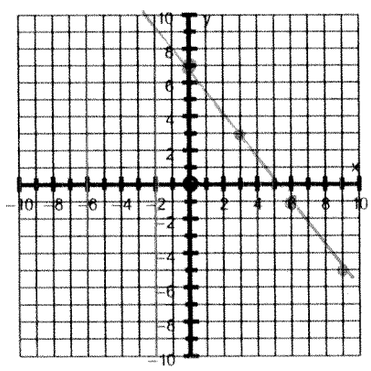
y-int. = -6



(g) $y = -\frac{4}{3}x + 7$

slope = $-\frac{4}{3}$

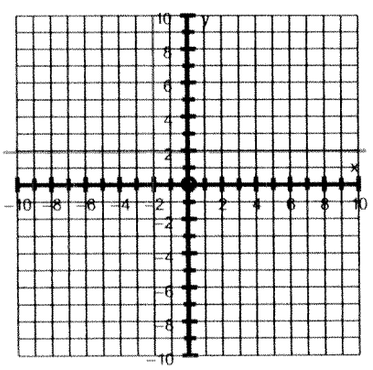
y-int. = 7



(h) $y = 2$

slope = 0

y-int. = 2

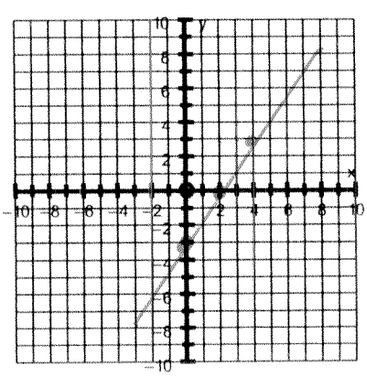


(i) $4y = 6x - 12$

slope = $\frac{3}{2}$

y-int. = -3

$y = \frac{3}{2}x - 3$



(j) $2y - 12 = -6x$

slope = -3

y-int. = 6

$y = -3x + 6$