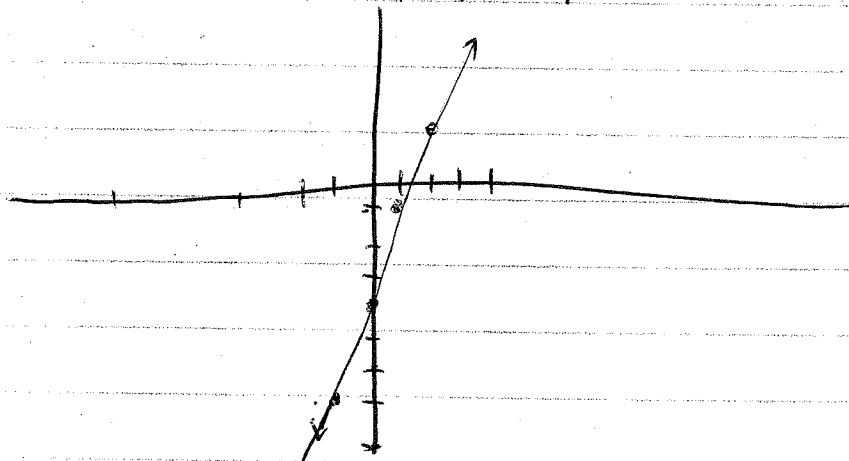


Math 115 Quiz #1 No calculators—show all work 1/28/09

① Complete the table and sketch the graph for $y = -4 + 3x$

| | | | | | |
|---|-----|----|----|----|---|
| x | -2 | -1 | 0 | 1 | 2 |
| y | -10 | -7 | -4 | -1 | 2 |

(by plotting points.)



② Solve for x : $\frac{2}{x} + \frac{3x}{x-5} = 3$ mult by $x(x-5)$

$$x(x-5)\left(\frac{2}{x} + \frac{3x}{x-5}\right) = x(x-5)(3)$$

$$x(x-5)\left(\frac{2}{x}\right) + x(x-5)\left(\frac{3x}{x-5}\right) = (x^2-5x)3$$

$$\begin{array}{r} 2x-10 \\ +15x \\ \hline 17x-10 \end{array} \quad \begin{array}{r} +3x^2 \\ -3x^2 \\ \hline \end{array} = \begin{array}{r} 3x^2-15x \\ -3x^2+15x \\ \hline \end{array}$$

$$17x-10 = 0 \Rightarrow x = \frac{10}{17}$$

③ Solve for x : $\begin{array}{r} 8x+4b \\ -3x-4b \\ \hline 5x \end{array} - bx = \begin{array}{r} a+1+3x \\ -4b-3x \\ \hline a+1-4b \end{array}$

$$5x - bx = a+1-4b$$

$$(5-b)x = a+1-4b$$

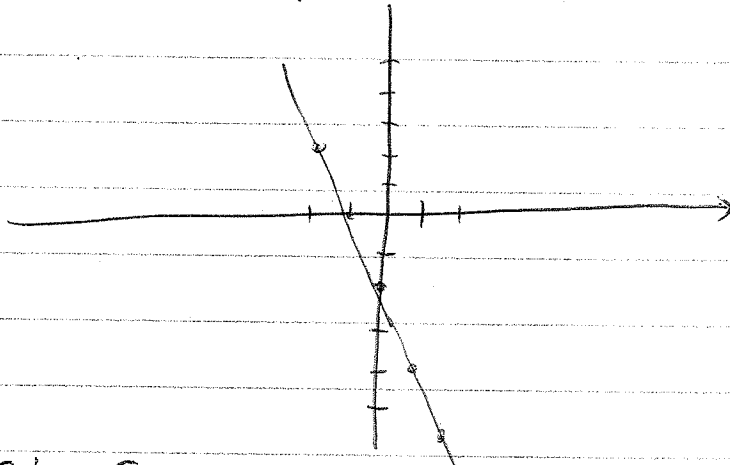
$$x = \frac{a+1-4b}{5-b}$$

Math 115 Quiz #1 No calculator—show all work. 1/28/09

① Complete the table and sketch the graph for $y = -2 - 2x$

| | | | | | |
|---|----|----|----|----|----|
| x | -2 | -1 | 0 | 1 | 2 |
| y | 2 | 0 | -2 | -4 | -6 |

(by plotting points.)



② Solve for x : $\frac{1}{x} + \frac{x}{x-5} = 1$ Mult by $x(x-5)$

$$x(x-5)\left(\frac{1}{x} + \frac{x}{x-5}\right) = x(x-5)$$

$$\cancel{x}(x-5)\left(\frac{1}{\cancel{x}}\right) + x\left(\cancel{x-5}\right)\left(\frac{x}{\cancel{x-5}}\right) = x^2 - 5x$$

$$x-5 + x^2 = x^2 - 5x$$

$$6x - 5 = 0$$

$$x = \frac{5}{6}$$

③ Solve for x : $19x - 9a + ax = 4ab - x$

$$+x + 9a \qquad +9a + x$$

$$20x + ax = 4ab + 9a$$

$$(20+a)x = 4ab + 9a$$

$$x = \frac{4ab + 9a}{20 + a}$$