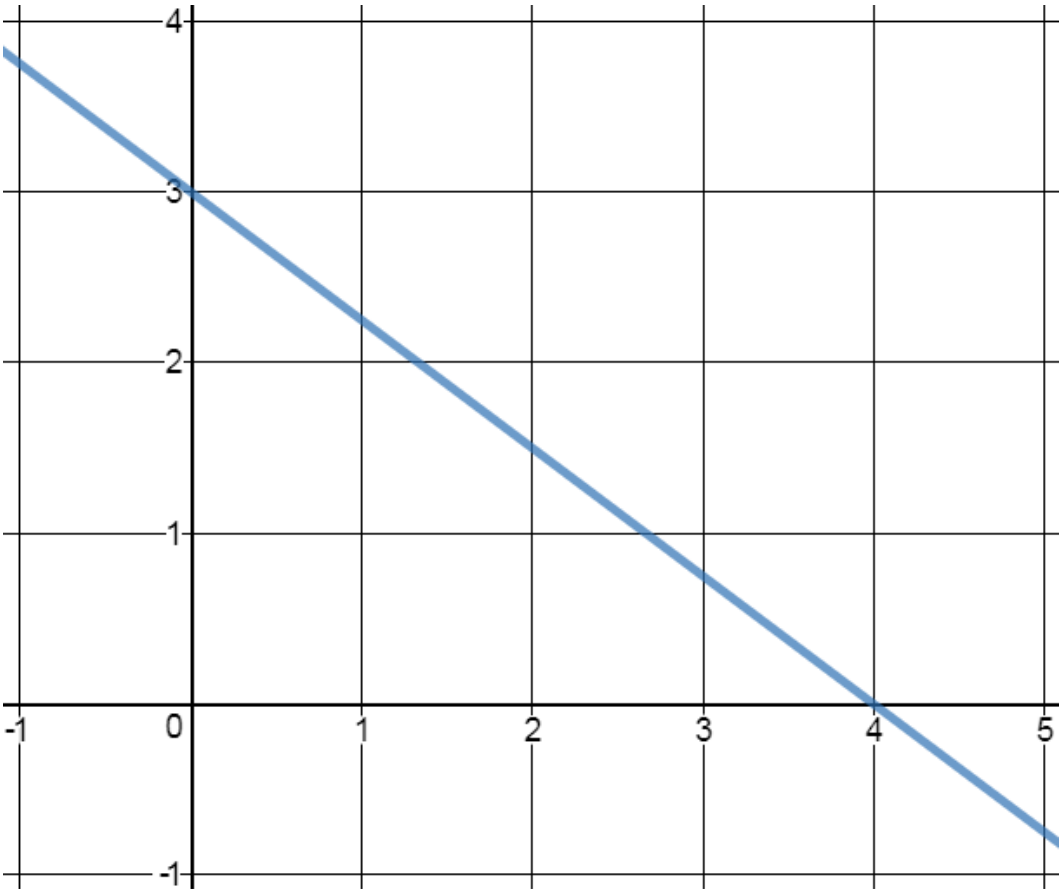
Date: _____

Graphing using x- and y-intercepts

X-Intercept: The x value where the line crosses the x-axis.

Y-Intercept: The y value where the line crosses the y-axis.



Finding x and y intercepts from an equation: $3x + 4y = 12$

Example 1
Find the x and y-intercept for each line.

a. $2x - 3y = 6$

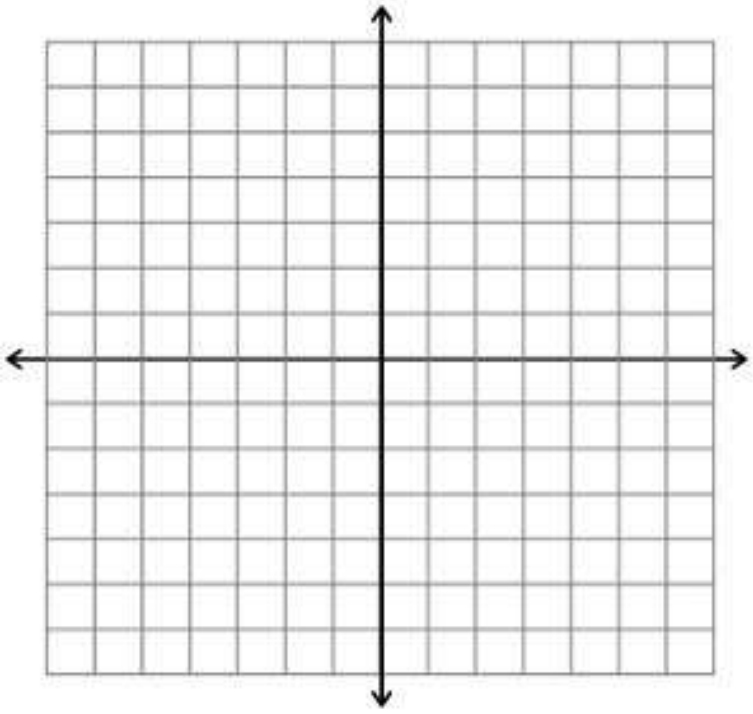
b. $x + y = 4$

c. $4x - 5y = 10$

d. $x + 3y = 0$

Example 2
Graph each line using the x and y intercepts.

a. $3x - 5y = -15$ b. $2x + 4y = -14$ c. $3x - y = 6$



Example 3
Find the equation of a line with:

a. x-intercept = 5
   y-intercept = –4

b. x-intercept = –3
   y-intercept = –7

Homework:

1. Find the equation of each of the following lines passing through the point $(3, -1)$ if

a. the y-intercept is –2

b. the x-intercept is –1

2. Find the equation of each line that:

a. has an x-intercept of –4 and a y-intercept of 2

b. has an x-intercept of $\frac{2}{3}$ and a slope of $-\frac{1}{2}$

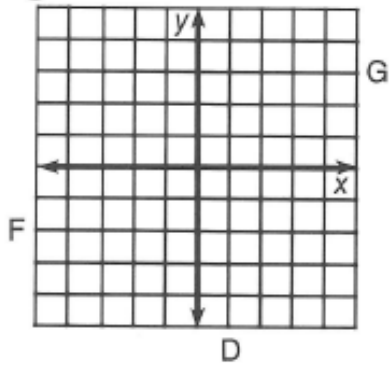
3. A line has the same x-intercept as $2x + y = 8$ and passes through the point $(0,1)$. Determine the equation of this line.

4. A line has the same y-intercept as $2x - y = 3$ and passes through the point $(-4,2)$. Determine the equation of this line.

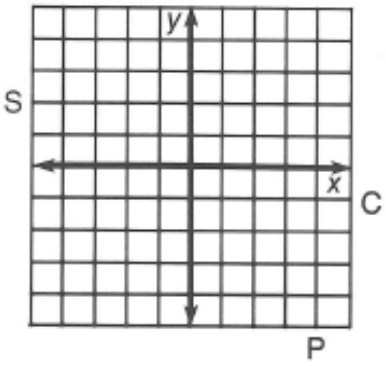
Why Did the Cow Want a Divorce?

Graph each equation below. The graph, if extended, will cross a letter. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

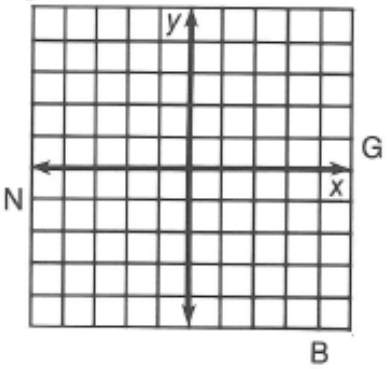
① $y = -2$



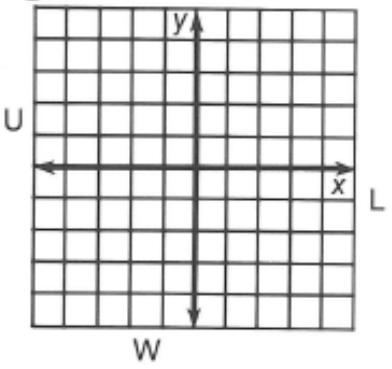
② $x = 4$



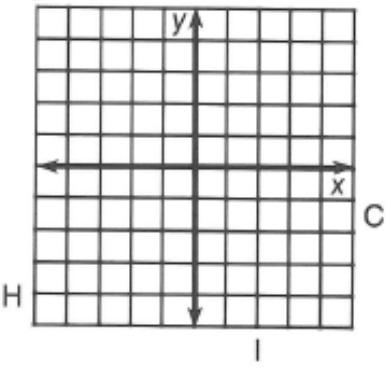
③ $2x - 3y = 9$



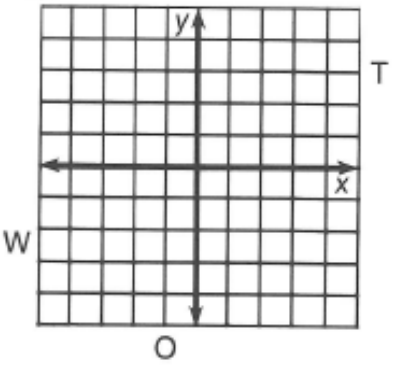
④ $x + 2y - 4 = 0$



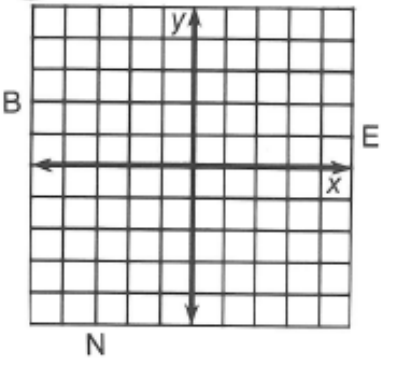
⑤ $3x + 4y = 12$



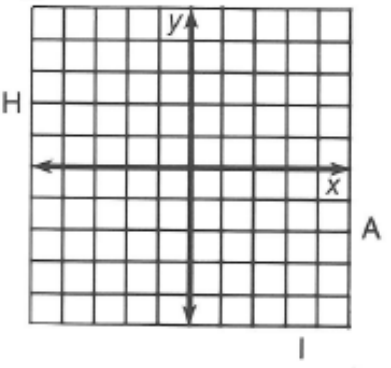
⑥ $6x - 5y + 20 = 0$



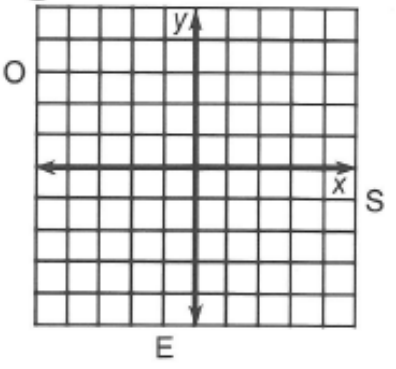
⑦ $x + 3 = 0$



⑧ $2x - 7 = 0$



⑨ $-2x = 2y + 5$



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Answer: