



Writing Linear Equations

Linear Equations

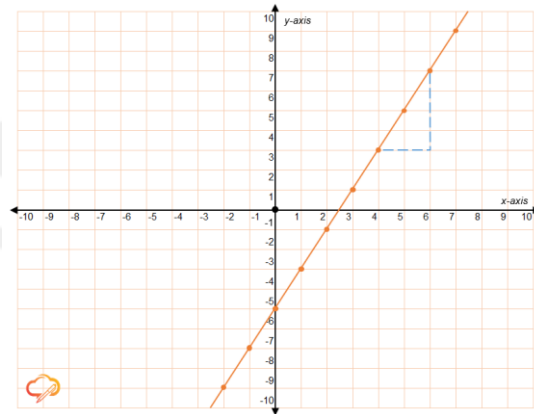
Straight lines on a graph are called linear relationships.

Equations of straight lines are written in the form:

$$y = mx + c$$

The straight line in the graph can be written using this linear equation form.

Let's go through each term together.



In linear equations,

- y = any y-value point on the line (a dependent variable)
- x = any x-value point on the line (an independent variable)
- m = slope of the line (number) $m = \frac{\text{rise}}{\text{run}}$
- c = y-intercept (number) *The point where the line cuts the y – axis*

For the example above:

1

Find the y-intercept (c)

$$c = -5$$

2

Find the slope (m)

$$m = \frac{\text{rise}}{\text{run}} = \frac{2}{1} = 2$$

3

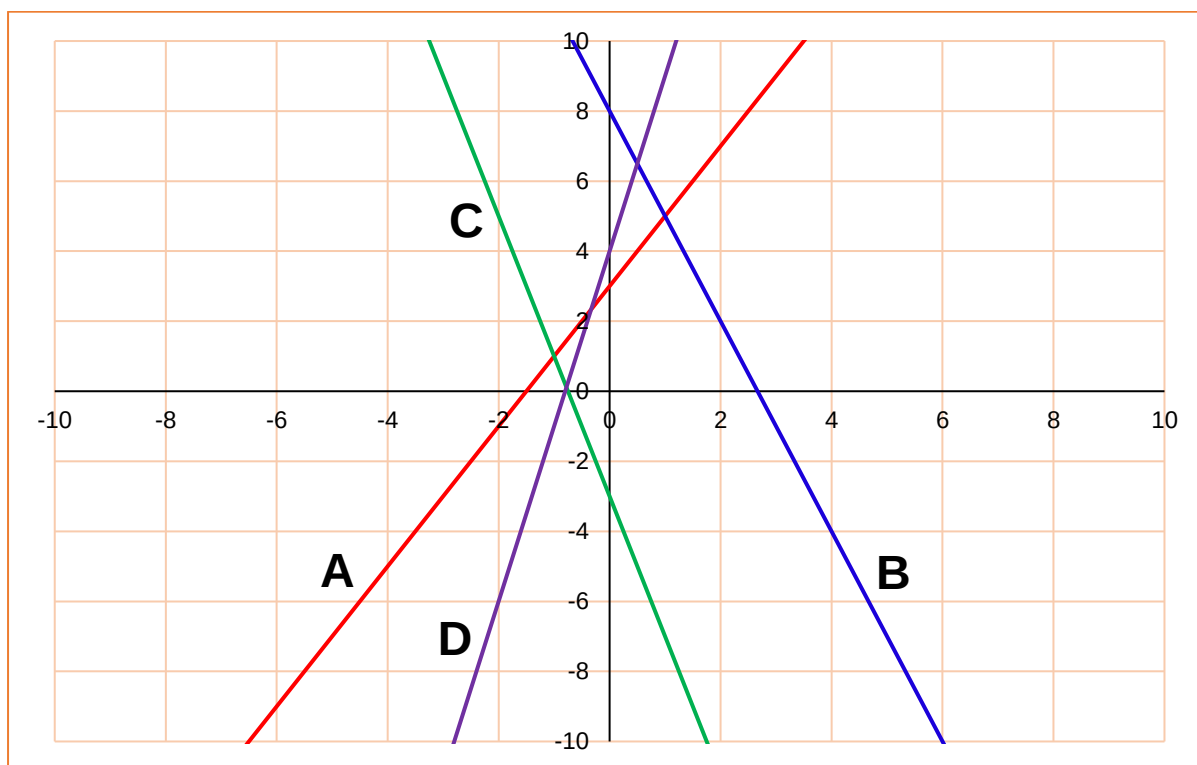
Write the variables c and m into the equation.

$$y = 2x - 5$$

Use some points to check.

Substitute $x = 4$ in to get $y = 3$.
The ordered pair $(4, 3)$ can be found on the line.

Instructions: Write the equation for each line on the graph below.



Line A

1

Line B

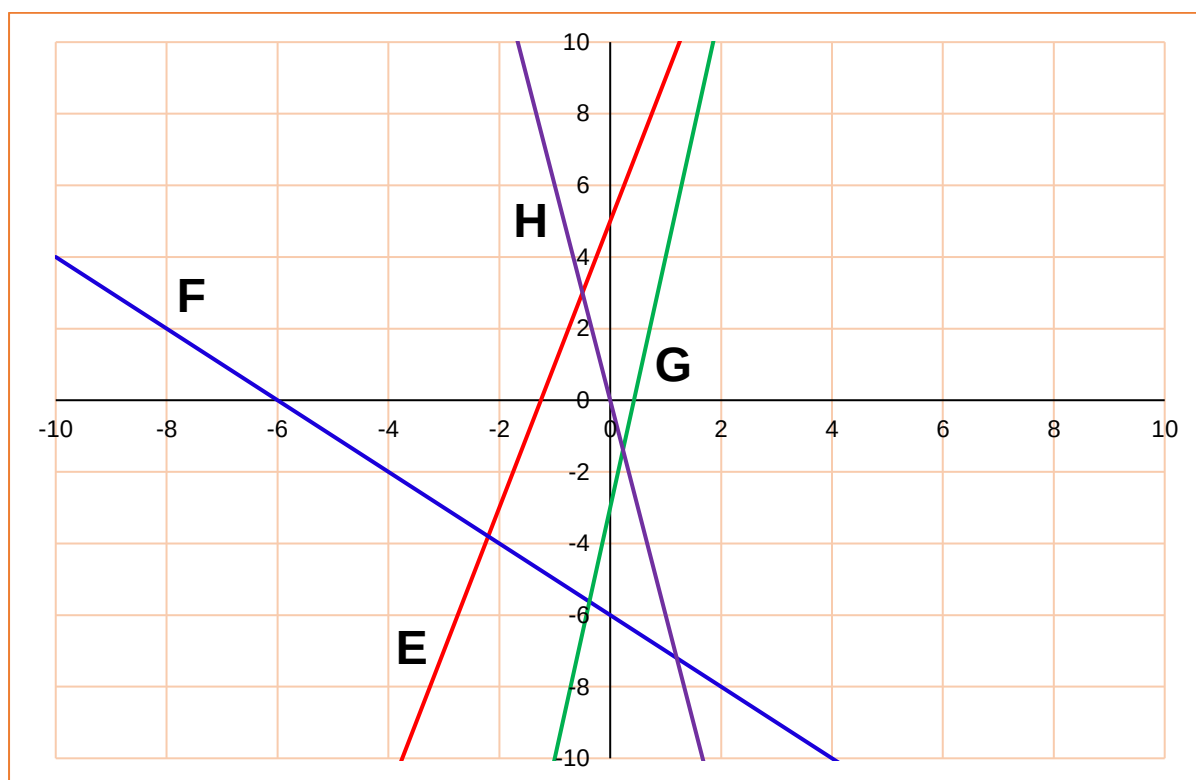
2

Line C

3

Line D

4



5

Line E

6

Line F

7

Line G

8

Line H



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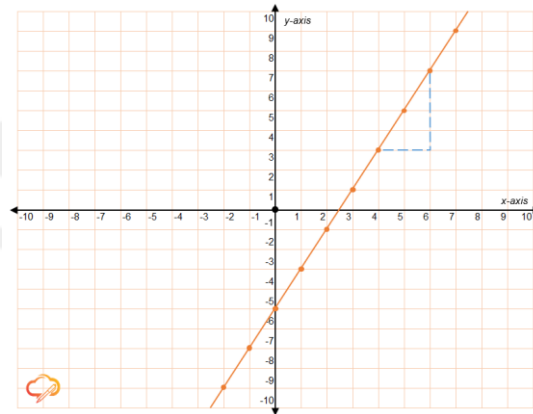
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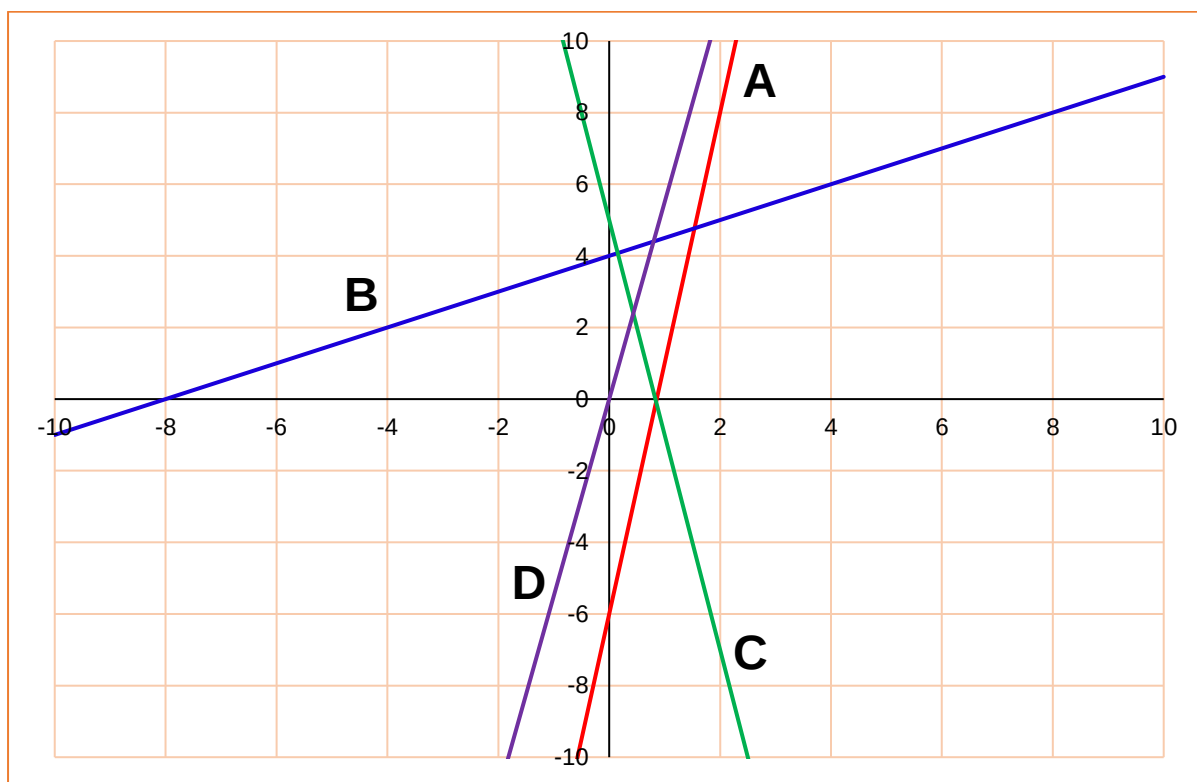
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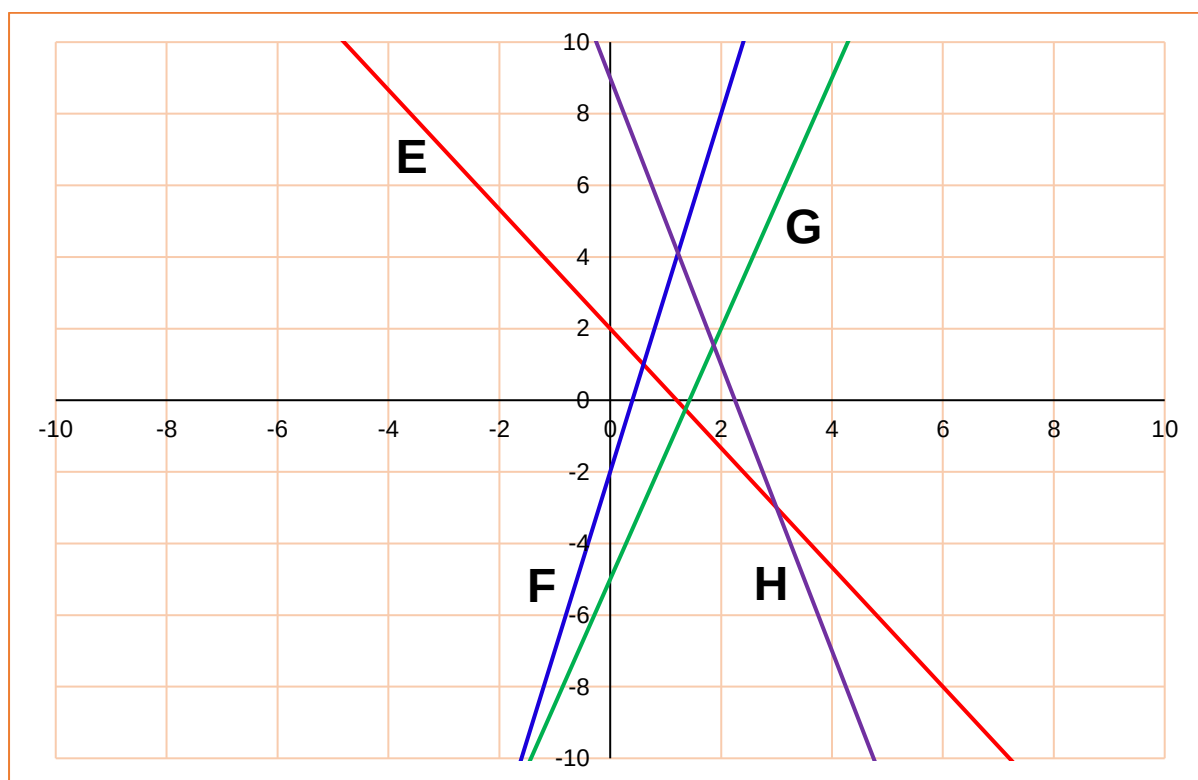
2

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Line H