UNIT 5 *Linear Graphs and Equations* Overhead Slides

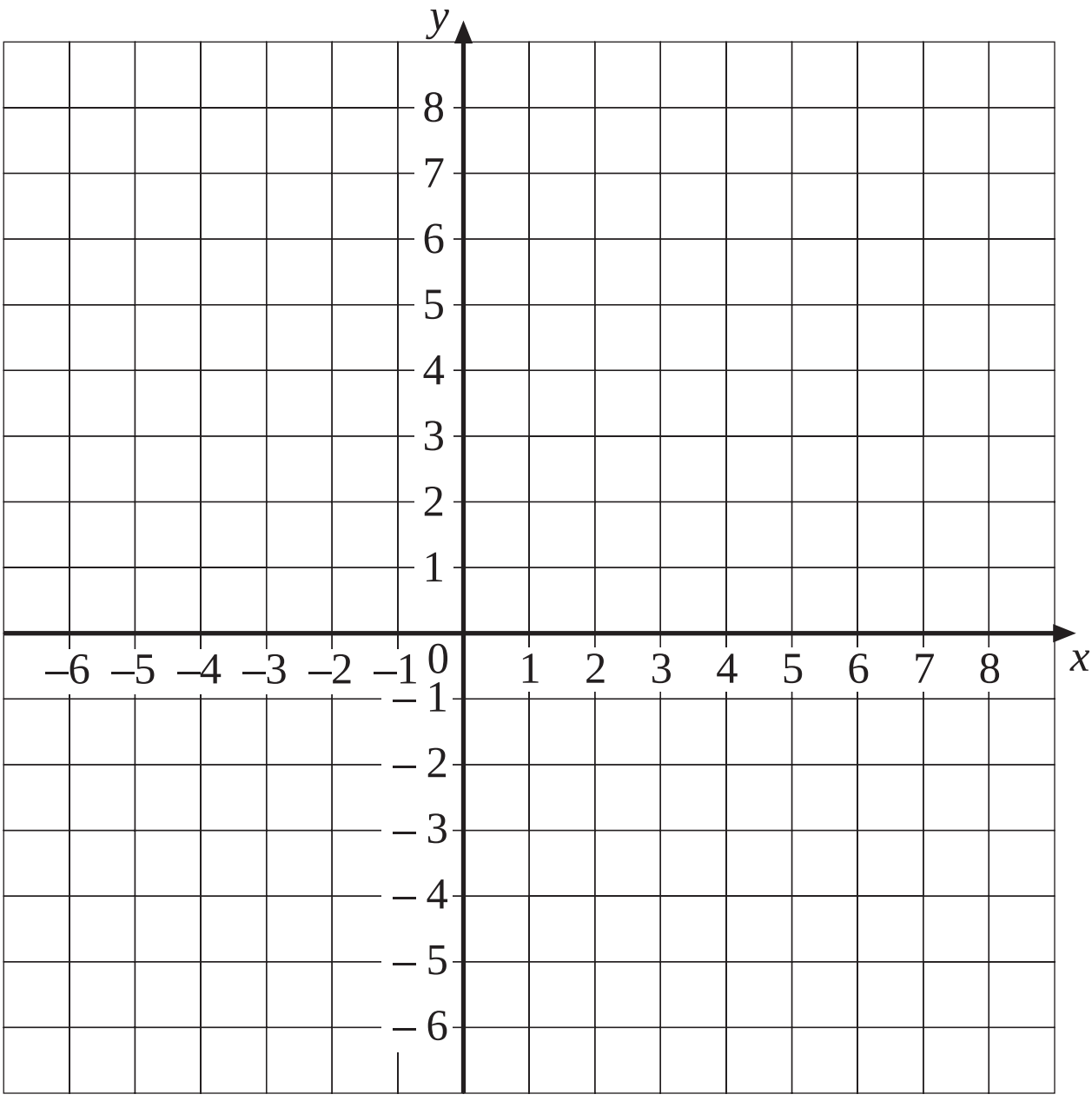
Overhead Slides

OS 5.1 *Plotting Points*

Plot the points with coordinates:

A (1, 7), B (7, – 5), C (5, 7),

D (– 3, – 5), E (7, 0), F (– 5, – 6)

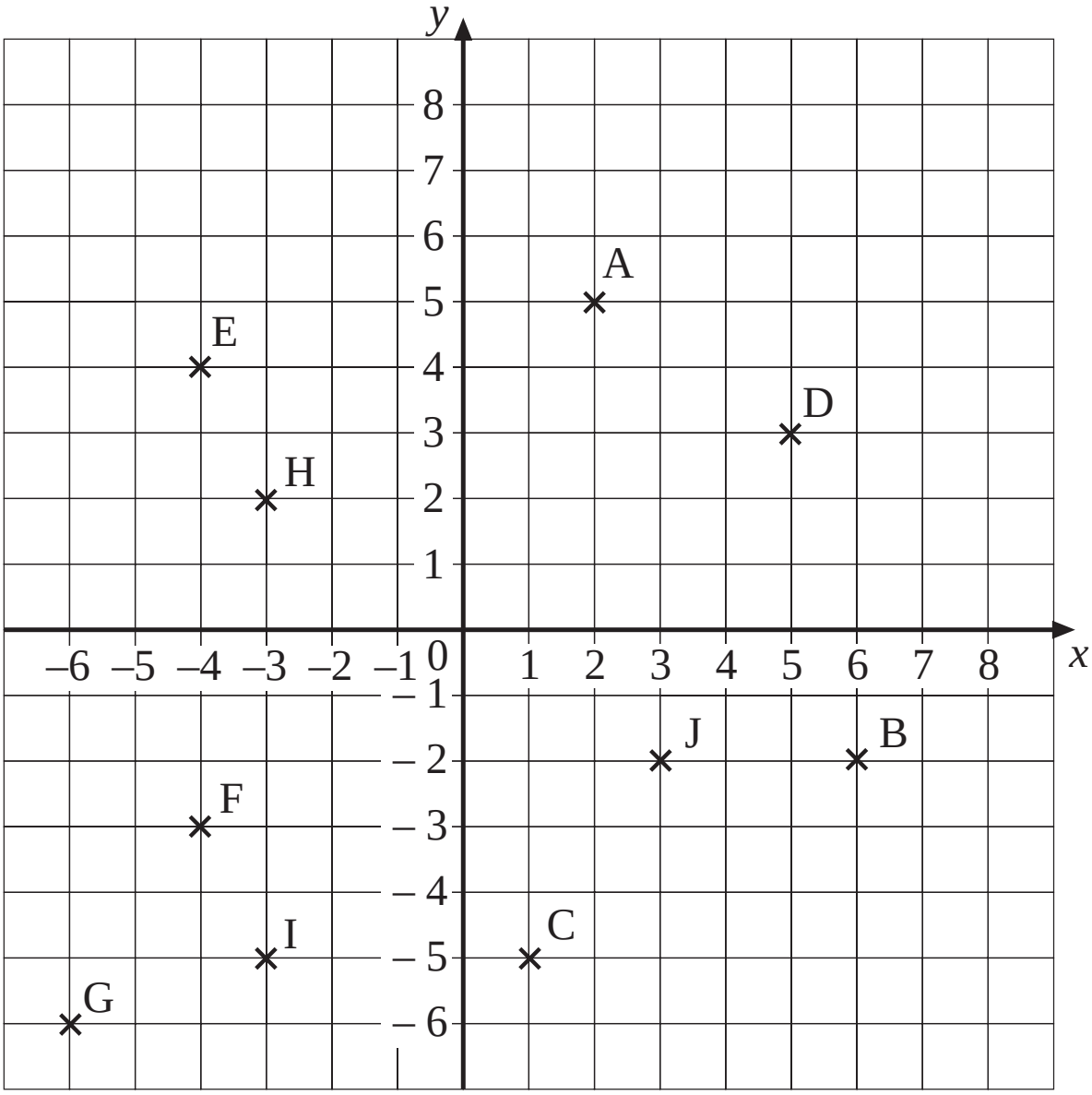


Join A and B. Join C and D. Join E and F.

What are the coordinates of the vertices of the triangle you have drawn?

OS 5.2 *Coordinates of Points*

Write down the coordinates of each point shown on this set of axes:



A (,) B (,)

C (,) D (,)

E (,) F (,)

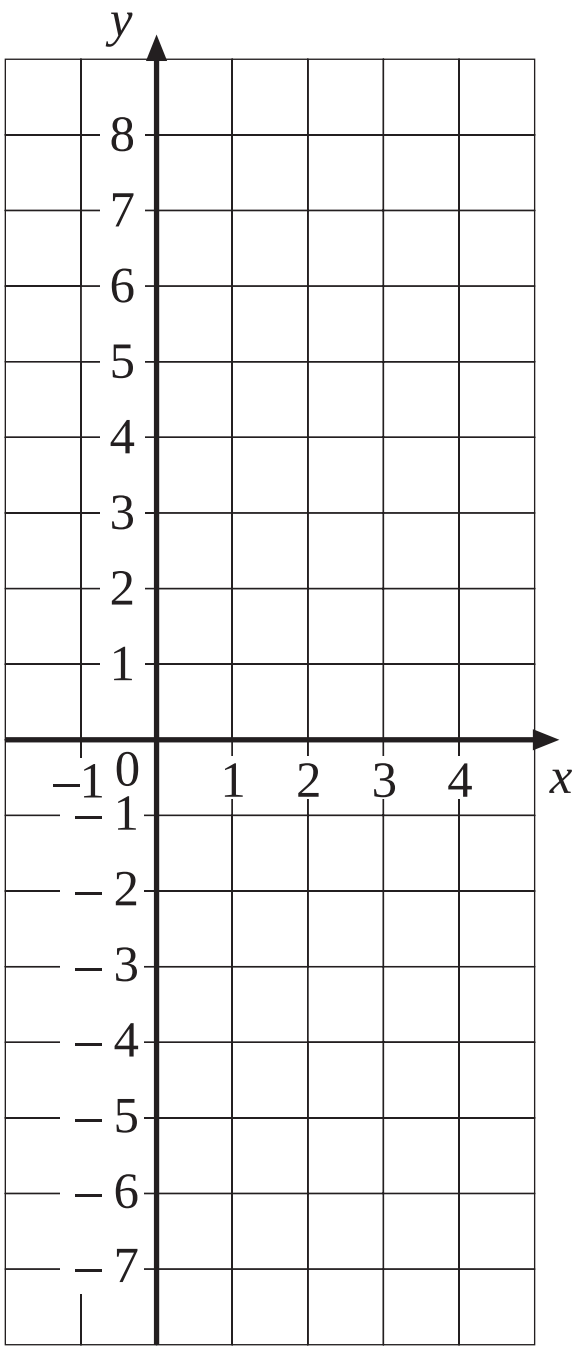
G (,) H (,)

I (,) J (,)

OS 5.3 *Plotting a Graph*

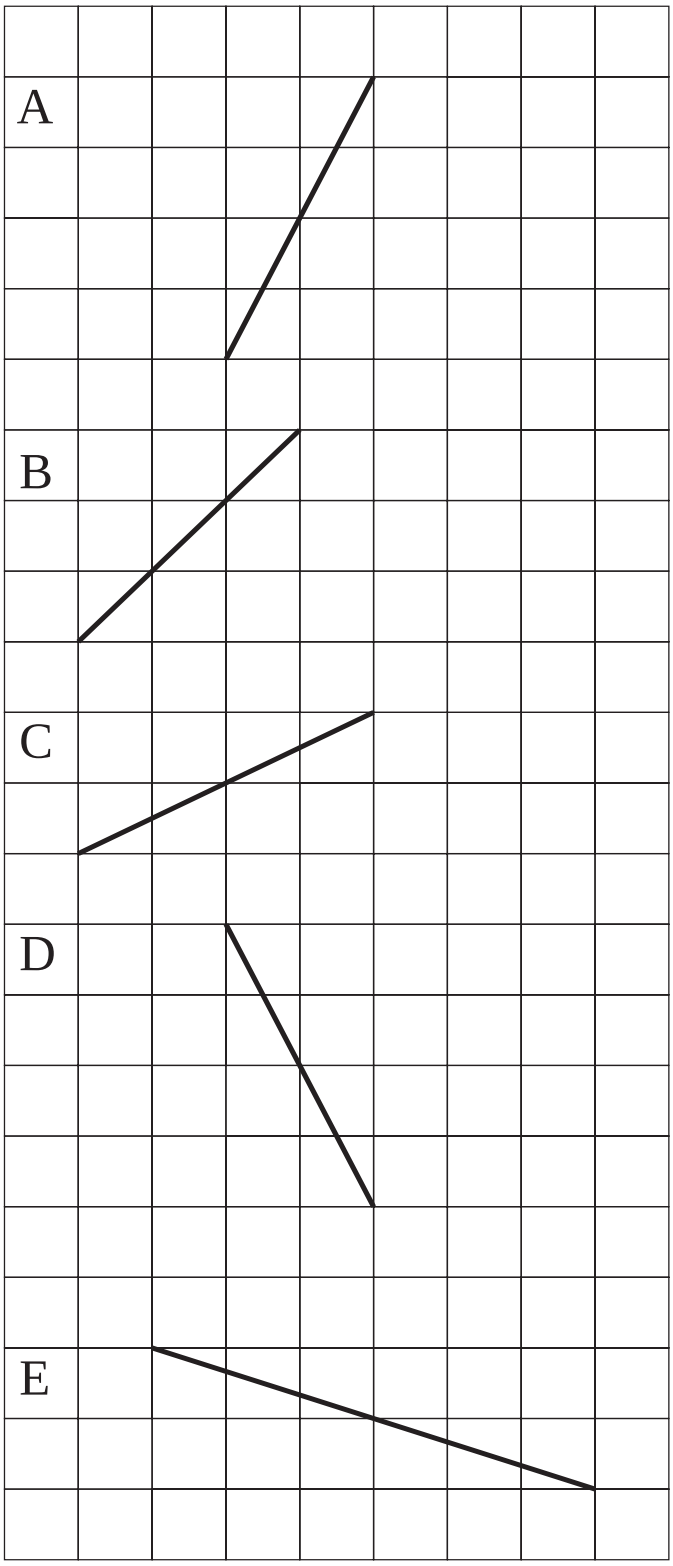
Draw the graph with equation $y = 3x - 4$.

x	-1	0	1	2	3	4
y						



OS 5.4 *Gradients of Lines*

Calculate the gradient of each of the following lines:



Gradient $= \frac{\quad}{\quad}$

$=$

Gradient $= \frac{\quad}{\quad}$

$=$

Gradient $= \frac{\quad}{\quad}$

$=$

Gradient $= \frac{\quad}{\quad}$

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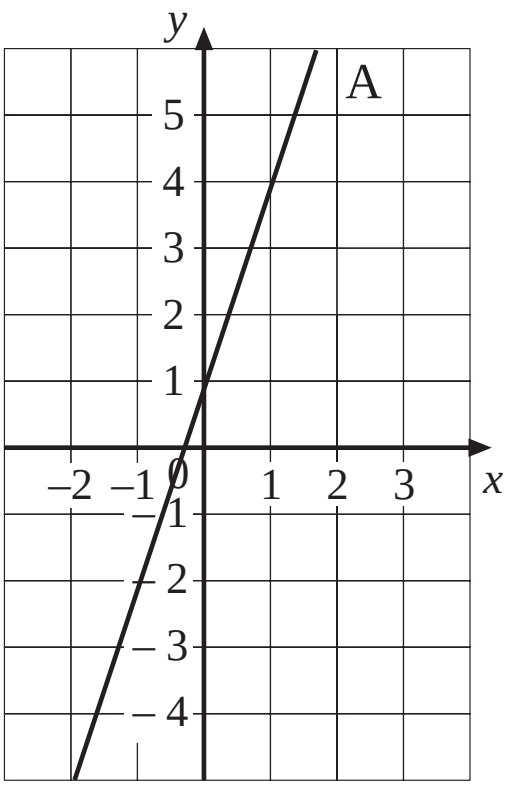
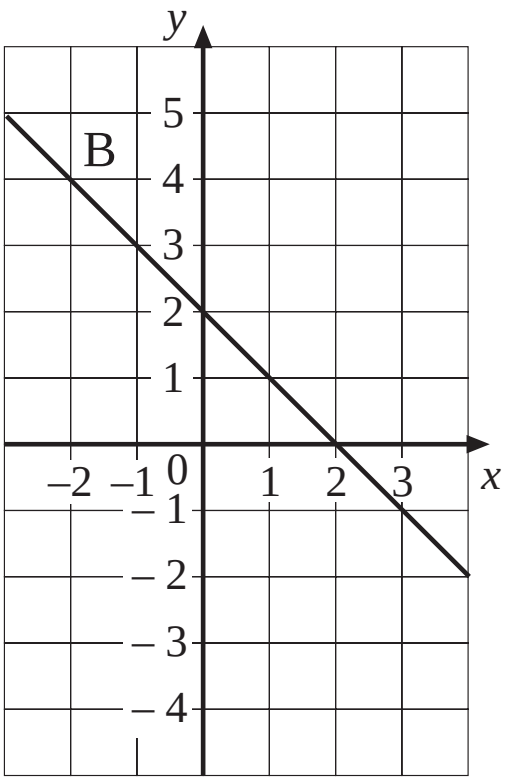
Gradient $= \frac{\quad}{\quad}$

$=$

OS 5.5 *Equations of Lines*

Determine the equation of each of the following lines:





OS 5.6 *Solving Straightforward Equations*

Solve the following equations:

1. $x + 11 = 20$

2. $x - 5 = 9$

3. $8x = 40$

4. $\frac{x}{3} = 6$

OS 5.7 *Solving Equations*

Solve the following equations:

1. $3x - 4 = 11$

2. $3(x + 6) = 21$

3. $\dfrac{x - 5}{8} = 3$

4. $5(2x - 8) = 60$

OS 5.8 *Solving Equations with Graphs*

Solve the equation $7 - x = 2x + 1$.

Draw the lines:

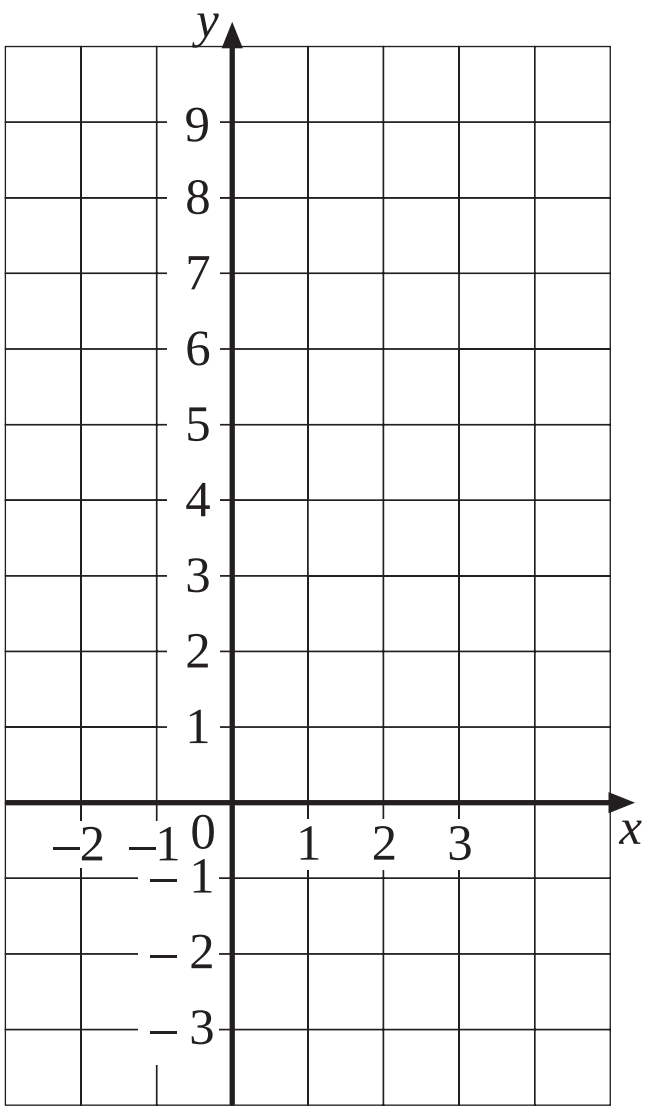
$y = 7 - x$

and

$y = 2x + 1$

x	-2	-1	0	1	2	3
y						

x	-2	-1	0	1	2	3
y						



The solution is where the lines intersect.

$x =$ ☐

$y =$ ☐

OS 5.9 *Parallel Lines*

Draw the lines with equations:

$y = 2x + 1$

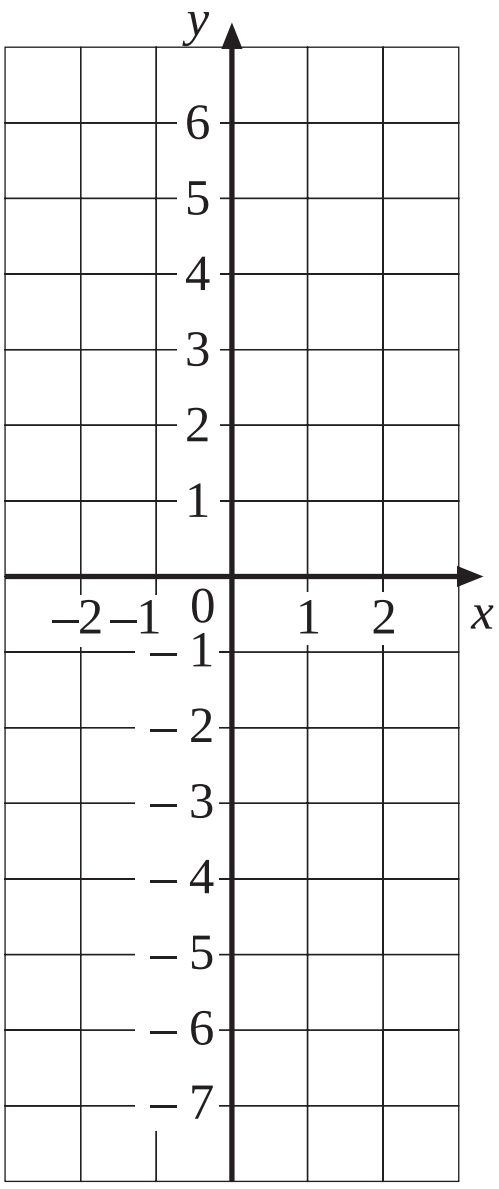
x	-2	-1	0	1	2
y					

$y = 2x + 2$

x	-2	-1	0	1	2
y					

$y = 2x - 3$

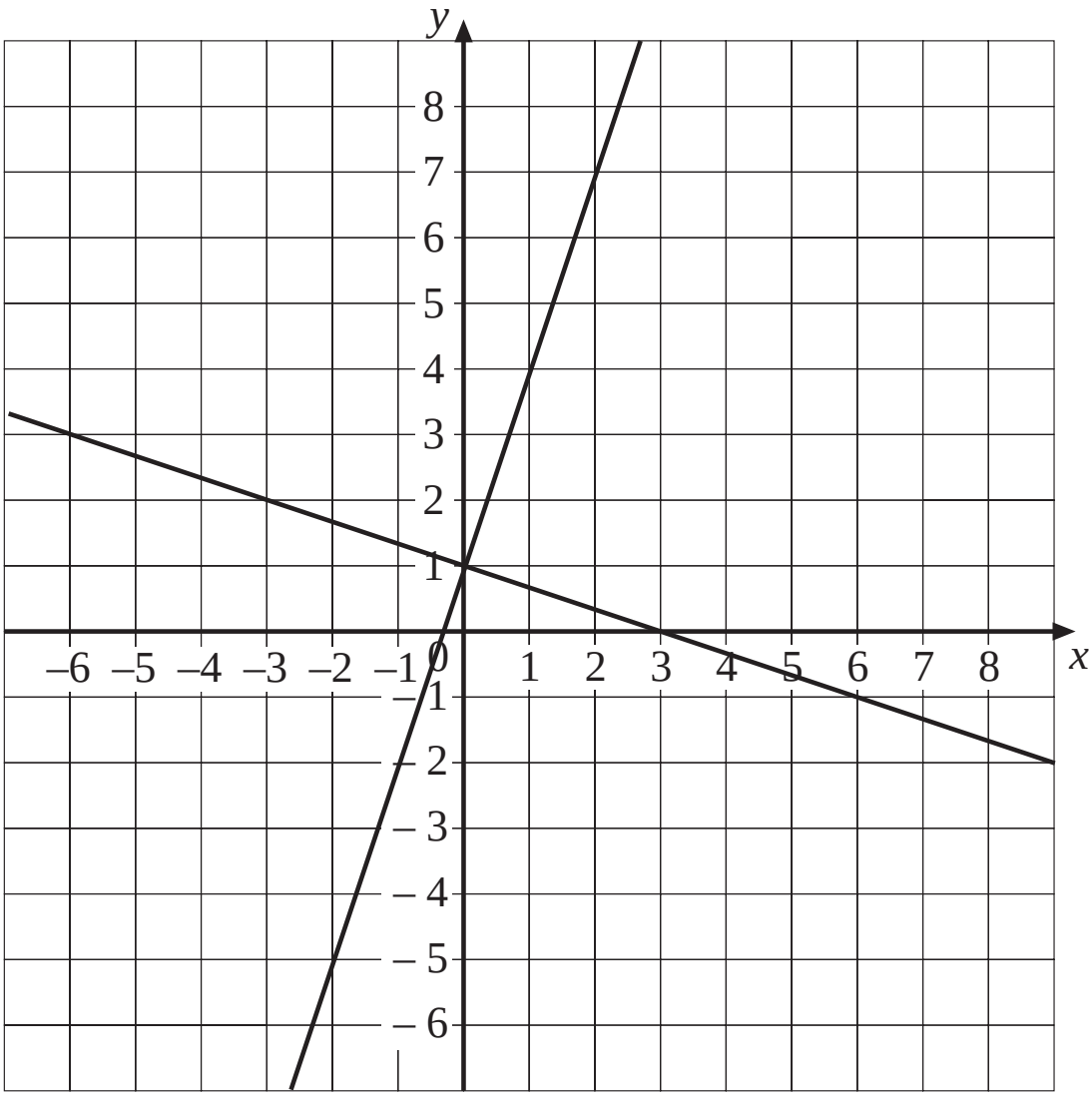
x	-2	-1	0	1	2
y					



What is the same about each equation?

OS 5.10 *Perpendicular Lines*

Two perpendicular lines are shown below:



Determine the equation of each line.

Describe how the two equations are related.

OS 5.11 *Simultaneous Equations: Graphical Method*

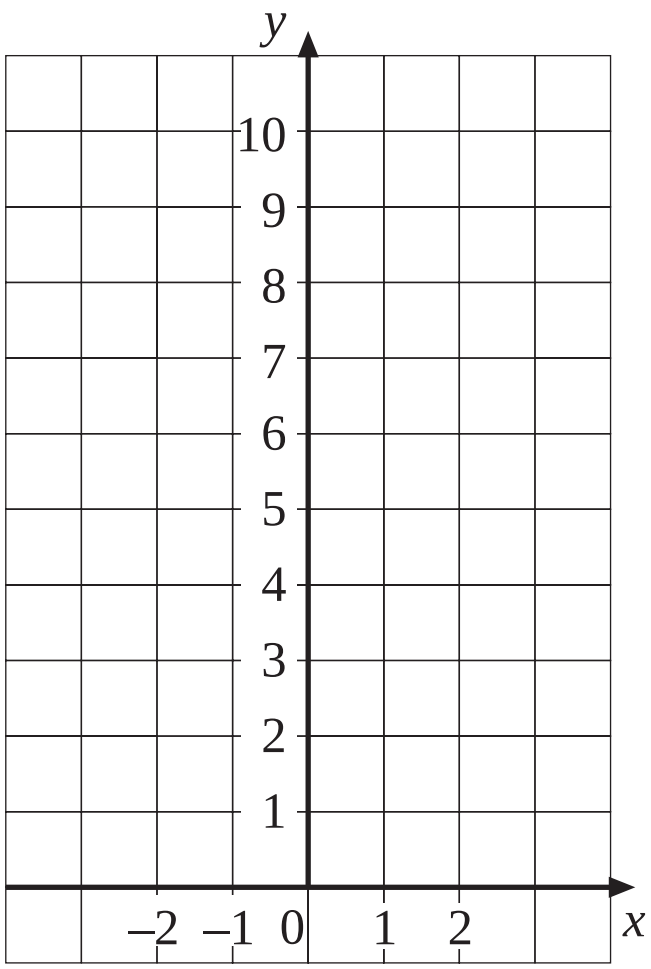
Use a graph to solve the simultaneous equations:

$x + y = 5$ and $2x + y = 6$

$y =$ $y =$

x	-2	-1	0	1	2
y					

x	-2	-1	0	1	2
y					



Solution $x =$ and $y =$

OS 5.12 *Simultaneous Equations: Elimination Method*

Solve the simultaneous equations:

$$2x + 4y = 22 \qquad (1)$$

$$3x - 5y = -11 \qquad (2)$$

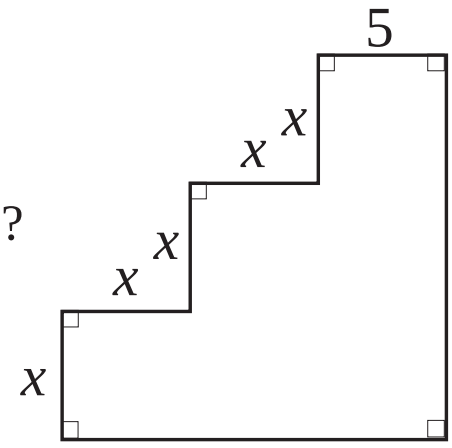
$(1) \times 5$

$(2) \times$

ADD

OS 5.13 *Equations in Context*

Example 1



The perimeter of this shape is 40 units.

What are the lengths of the 2 long sides?

Write down an equation and solve it to determine x.

Example 2

A window cleaner charges £2.20 per visit plus 40p per window. At one house he cleans n windows and charges £5.

Write down an equation and solve it to determine n.