Corbett maths

Drawing Linear Graphs

Video 186 on www.corbettmaths.com

Workout

Question 1: For each equation, complete the table of values and draw its graph for values of x from −1 to 3.

(a) y = 2x + 1

x	-1	0	1	2	3
y	-1	1			7

(b) y = 3x − 1

x	-1	0	1	2	3
y	-4			5	

(c) y = 2x − 3

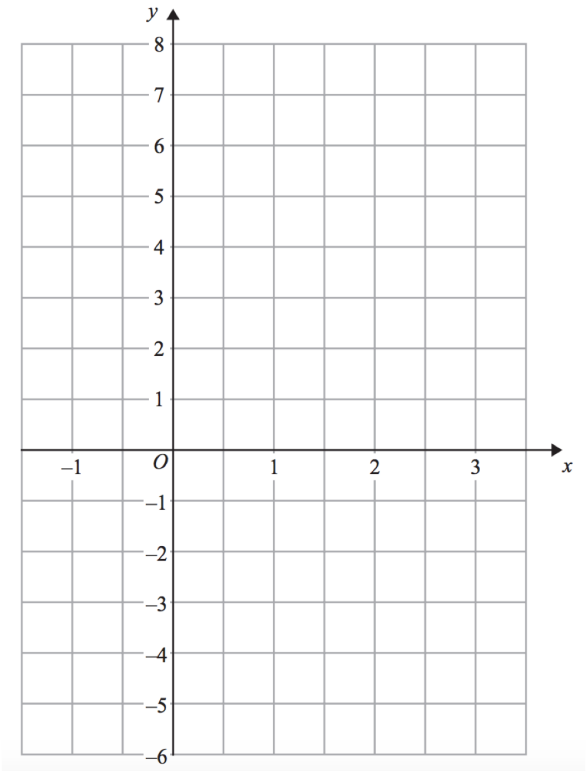
x	-1	0	1	2	3
y		-3	-1		

(d) y = x + 4

x	-1	0	1	2	3
y					7

(e) y = 2x

x	-1	0	1	2	3
y		0			6



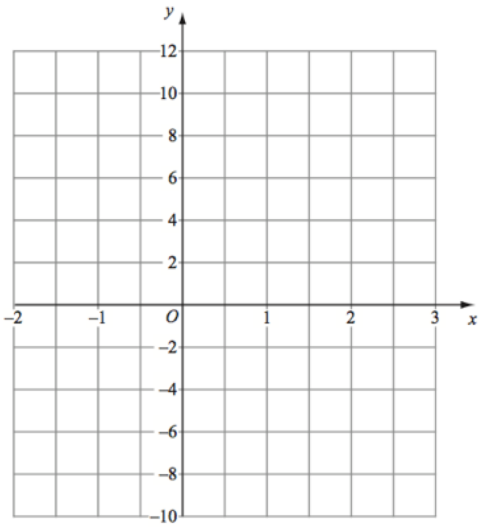
Question 2: For each equation, complete the table of values and draw its graph for values of x from −2 to 3.

(a) y = 2x + 4

x	-2	-1	0	1	2	3
y						

(b) y = 4x − 2

x	-2	-1	0	1	2	3
y						



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Question 3: For each equation, complete the table of values and draw its graph for values of x from −2 to 2.

(a) y = 3x + 3

x	-2	-1	0	1	2
y					

(b) y = x + 9

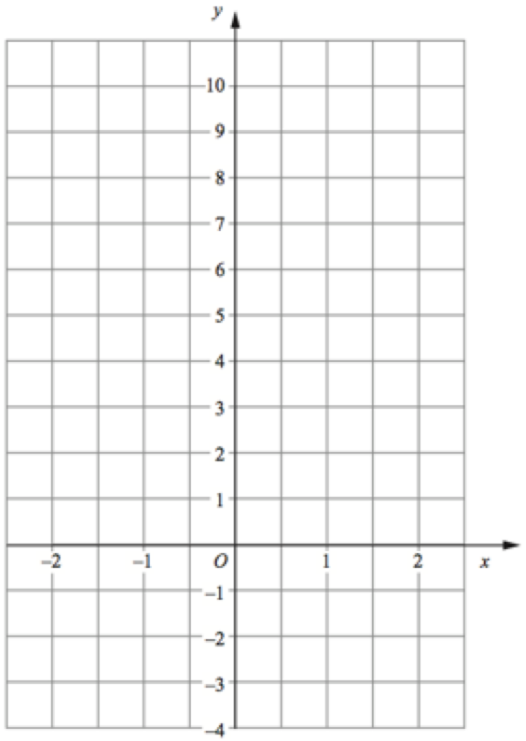
x	-2	-1	0	1	2
y					

(c) y = x − 2

x	-2	-1	0	1	2
y					

(d) y = x

x	-2	-1	0	1	2
y					



Question 4: For each equation, complete the table of values and draw its graph for values of x from −2 to 4.

(a) $y = \frac{1}{2}x + 1$

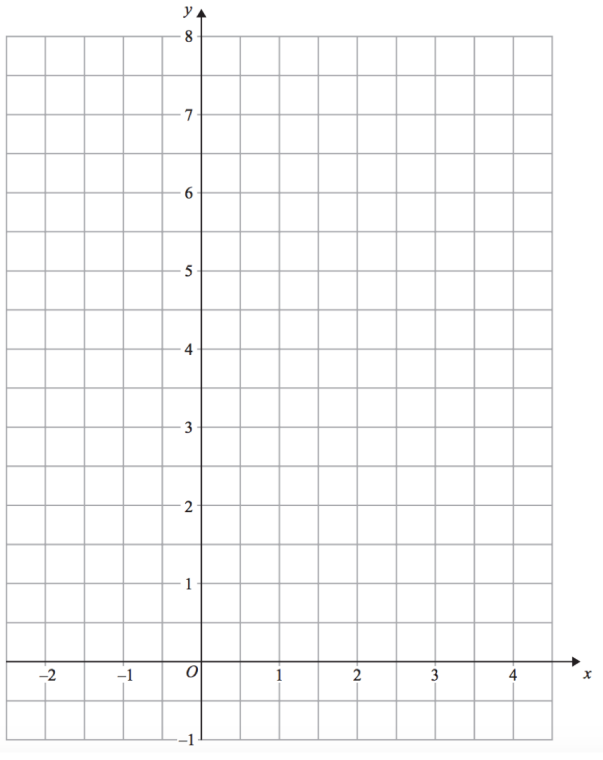
x	-2	-1	0	1	2	3	4
y							

(b) $y = \frac{1}{4}x + 5$

x	-2	-1	0	1	2	3	4
y							

(c) $y = \frac{1}{3}x + 1$

x	-2	-1	0	1	2	3	4
y							



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Question 5: For each equation, complete the table of values and draw its graph for values of x from −1 to 3.

(a) y = −2x + 5

x	-1	0	1	2	3
y					

(b) y = −x − 2

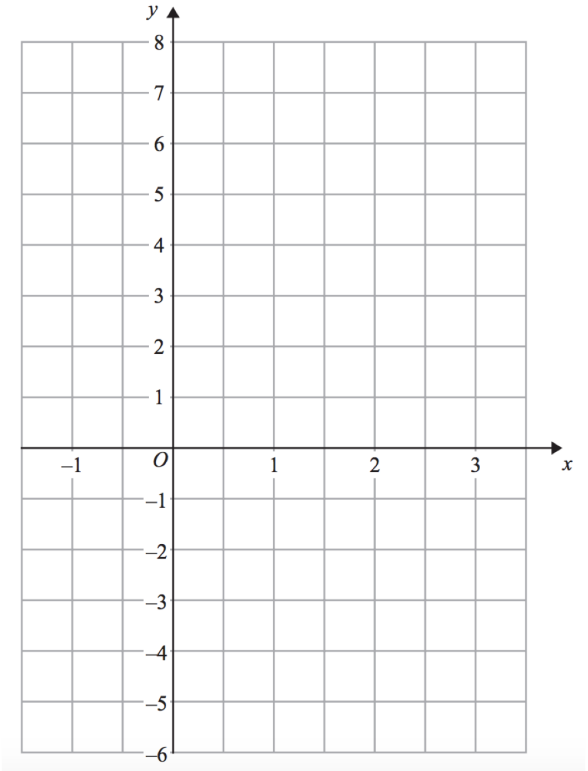
x	-1	0	1	2	3
y					

(c) y = −2x

x	-1	0	1	2	3
y					

(d) y = 6 − x

x	-1	0	1	2	3
y					



Question 6: For each equation, complete the table of values and draw its graph for values of x from −1 to 3.

(a) x + y = 3

x	-1	0	1	2	3
y					

(b) 2x + y = 4

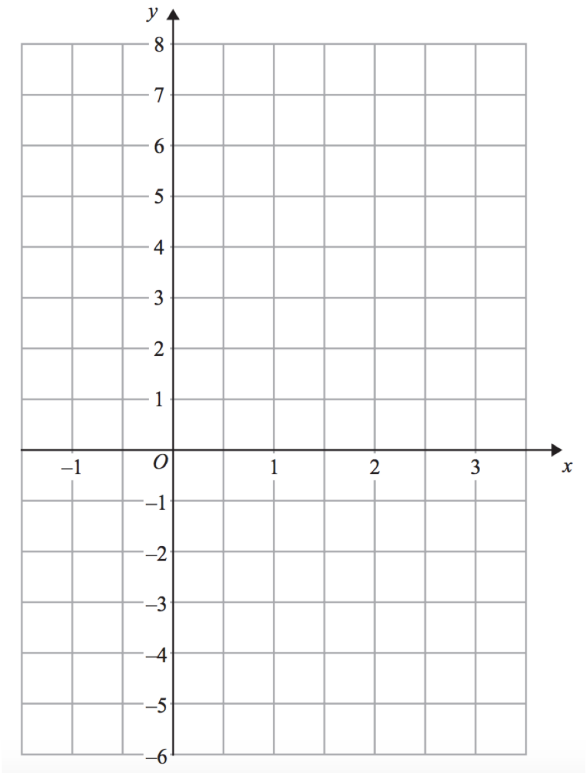
x	-1	0	1	2	3
y					

(c) x + 2y = −2

x	-1	0	1	2	3
y					

(d) 2x − y = 4

x	-1	0	1	2	3
y					



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Question 7: For each equation, draw its graph for values of x from −2 to 3.

(a) y = 2x + 3

(b) y = 5x − 4

(c) y = x − 3

(d) y = 3x

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

(f) y = −2x − 1

(g) x + y = 8

(h) 2x + y = 12

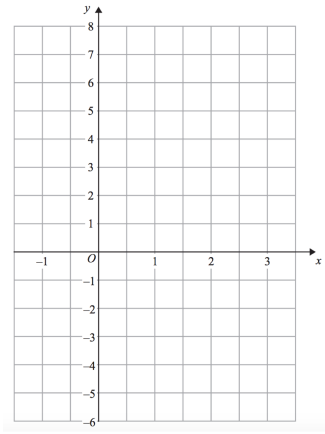
(i) x + 2y = 10

(j) 2x + 3y = 12

(k) 2x + 5y − 20 = 0

Apply

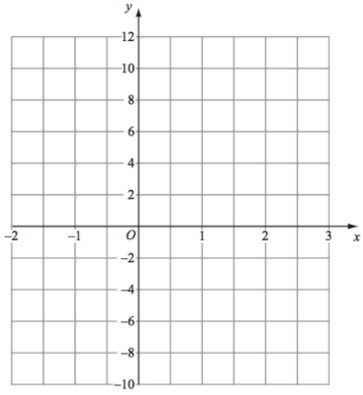
Question 1: (a) Draw y = x + 1 and y = 2x − 1 on the same set of axes.



(b) Where do the two graphs intersect?

Question 2: (a) Draw y = 3x − 4

(b) Draw x + y = 2



The graph y = 3x − 4 crosses the y-axis at the point A
The graph x + y = 2 crosses the x-axis at the point B
O is the origin.

(c) Write down the coordinates of the point A

(d) Write down the coordinates of the point B

(e) Find the area of triangle OAB.

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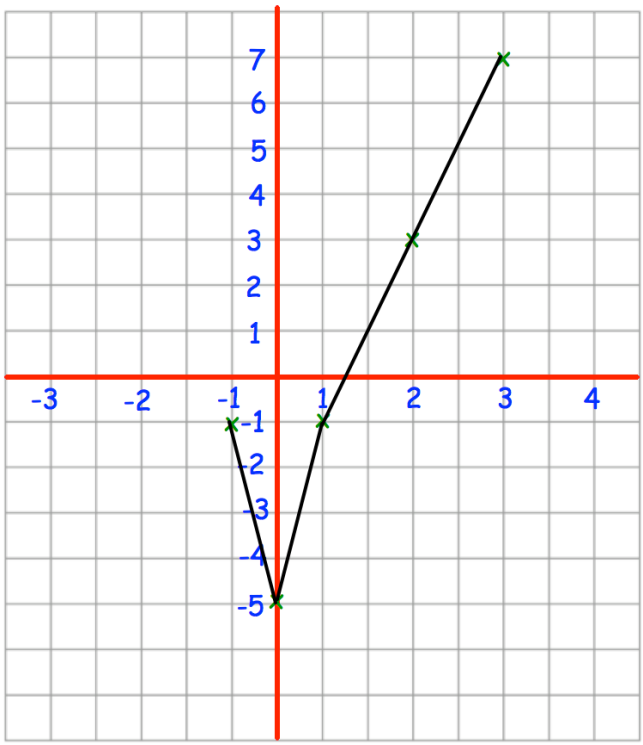
Question 3: Emma has tried to draw the graph of $y = 4x - 5$
Can you spot any mistakes?

Question: On the grid, draw $y = 4x - 5$ for values of x from –2 to 2.



x	-1	0	1	2	3
y	-1	-5	-1	3	7