No calculators are permitted in this exercise.

Exercise 6.1

Worked Example for Simple Questions

Name:

Adriel has started drawing a graph using the first coordinates in this table.

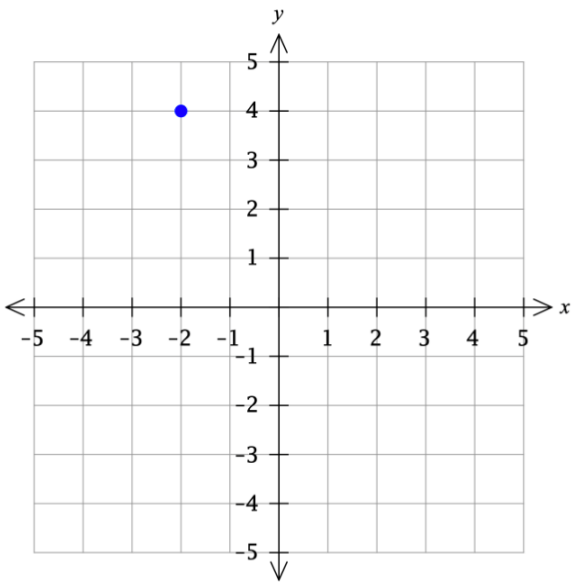
x	2	3	4	5
y	4	2	0	-2

* First coordinates are (2, 4)
  x y

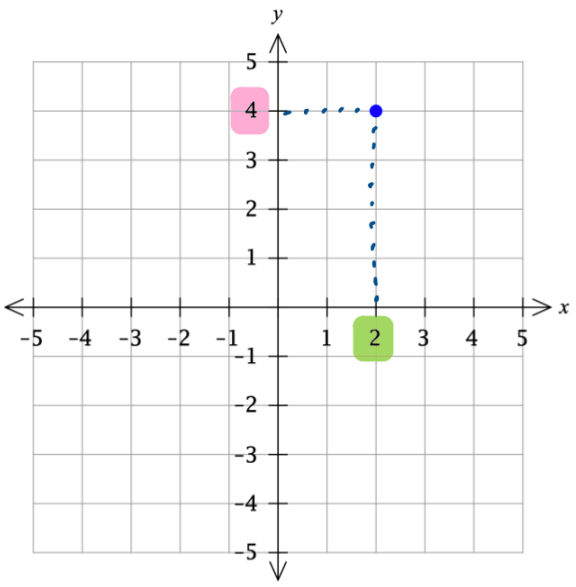
Which option shows Adriel's graph?

* Find the matching point on the graph.
  - the answer is B.

A



B



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Sketching a Straight Line from a Table of Values

Question 1

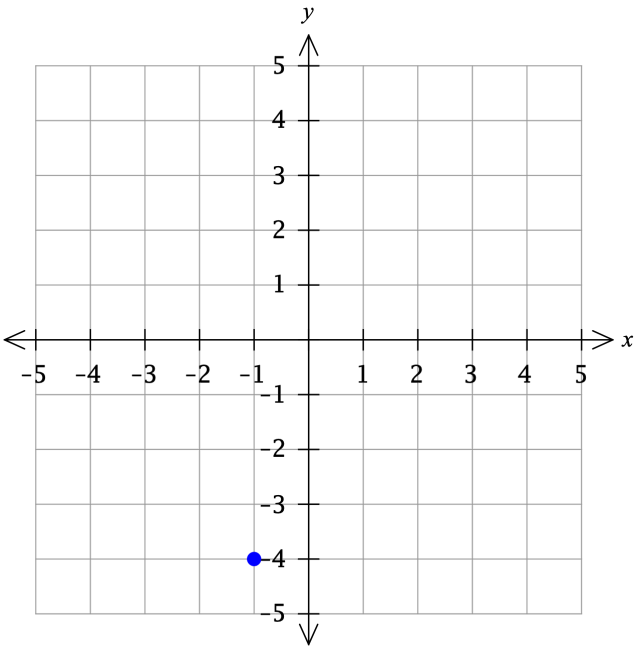
Luca has started drawing a graph using the first coordinates in this table.

x	-1	0	1	2
y	-4	-3	-2	-1

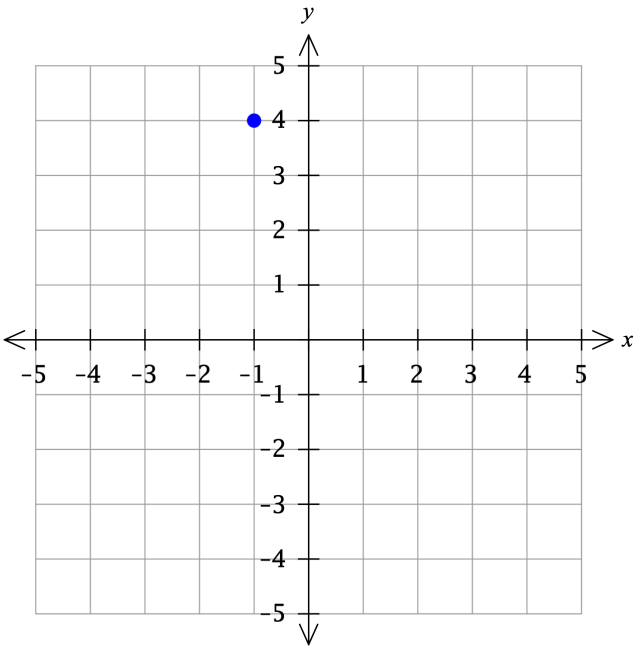
Which option shows Luca's graph?

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

Question 2

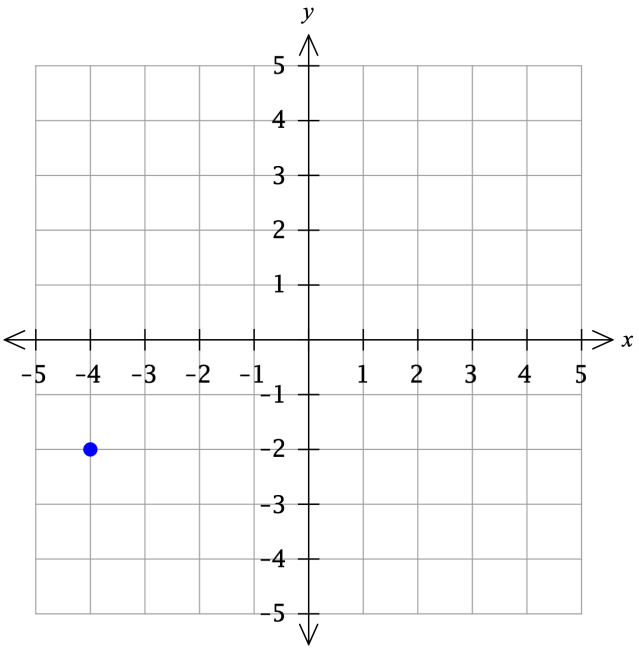
Walker has started drawing a graph using the first coordinates in this table.

x	-4	-3	-2	-1
y	-2	-1	0	1

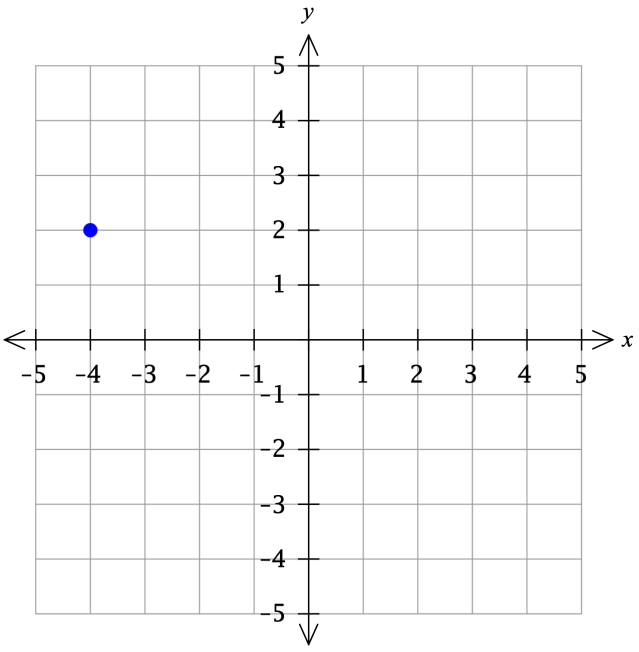
Which option shows Walker's graph?

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

Question 3

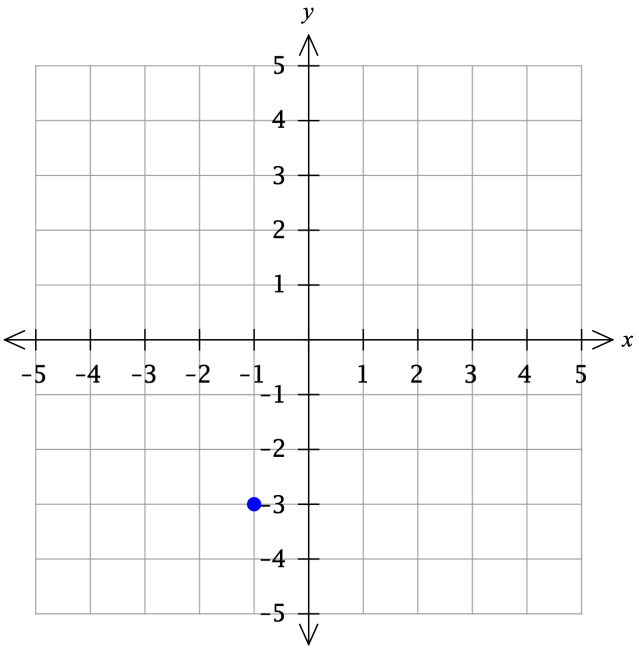
Bennett has started drawing a graph using the first coordinates in this table.

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

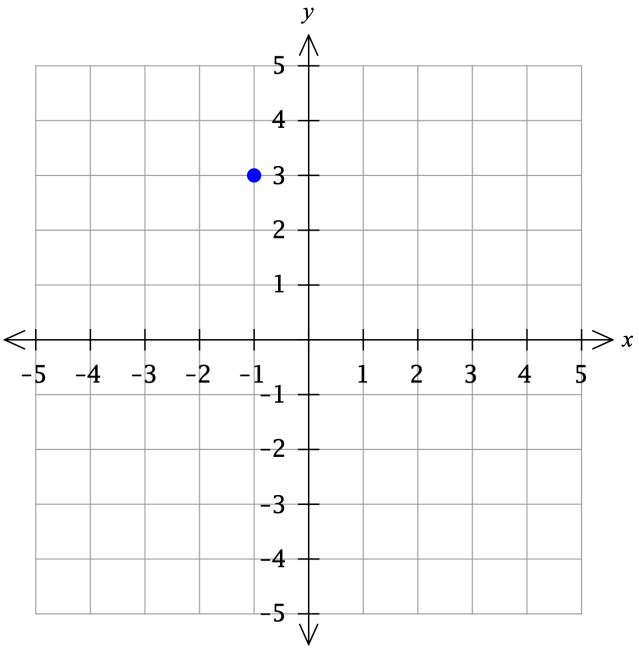
Which option shows Bennett's graph?

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

Question 4

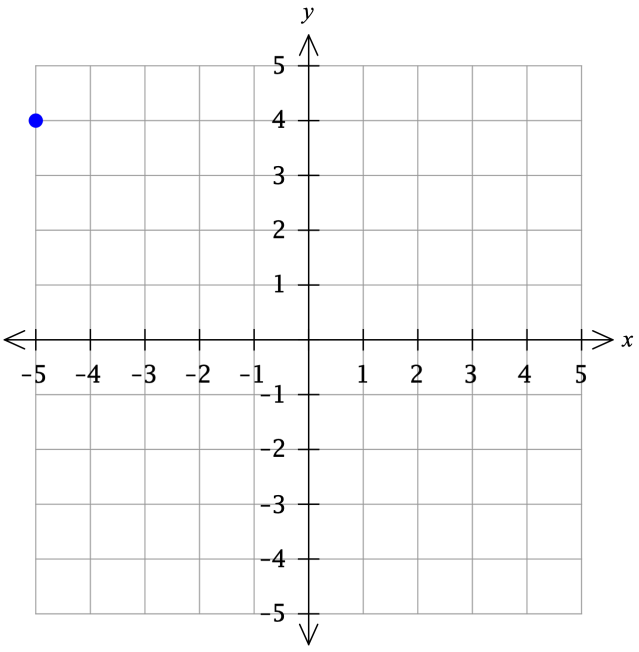
Sarah has started drawing a graph using the first coordinates in this table.

x	-5	-4	-3	-2
y	4	2	0	-2

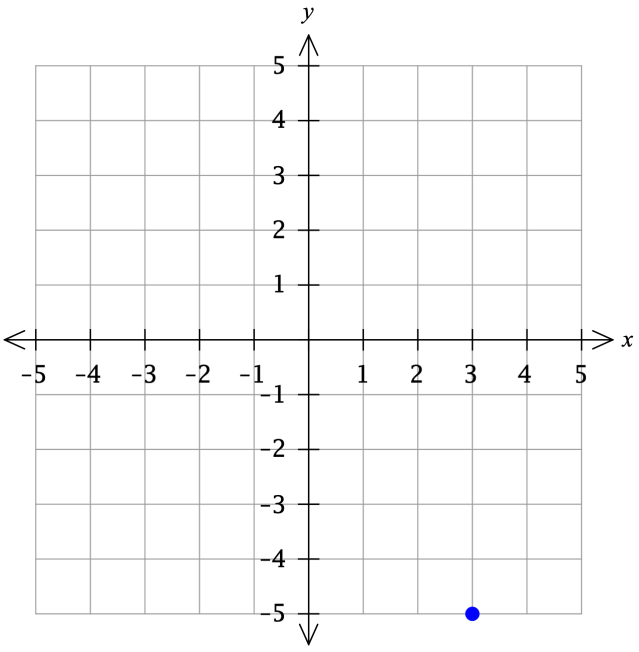
Which option shows Sarah's graph?

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

Question 5

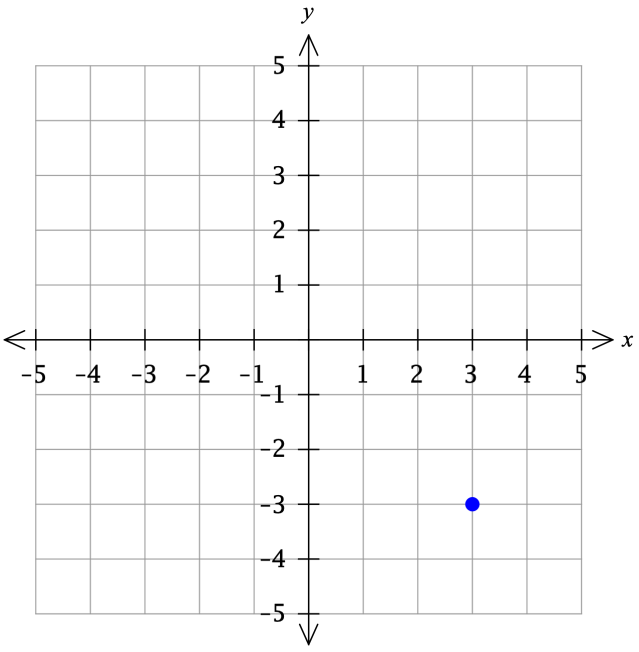
Ember has started drawing a graph using the first coordinates in this table.

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

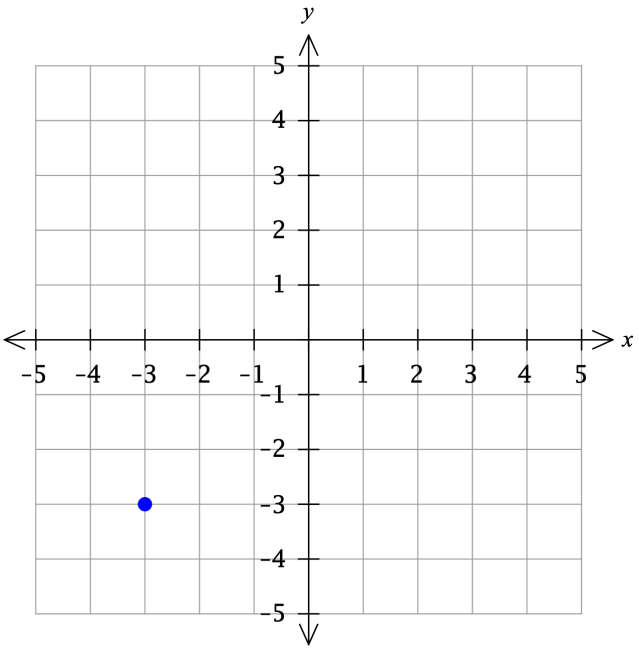
Which option shows Ember's graph?

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

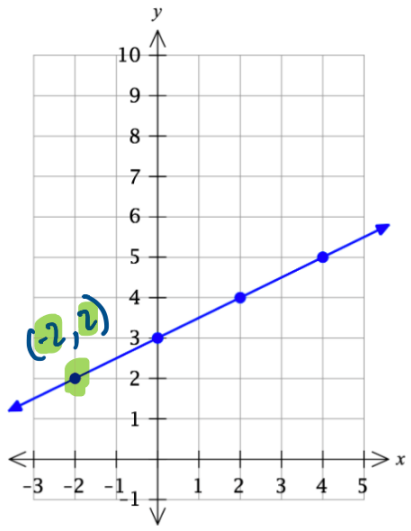
Worked Example for Standard Questions

Which option shows the points below plotted onto a Cartesian plane?

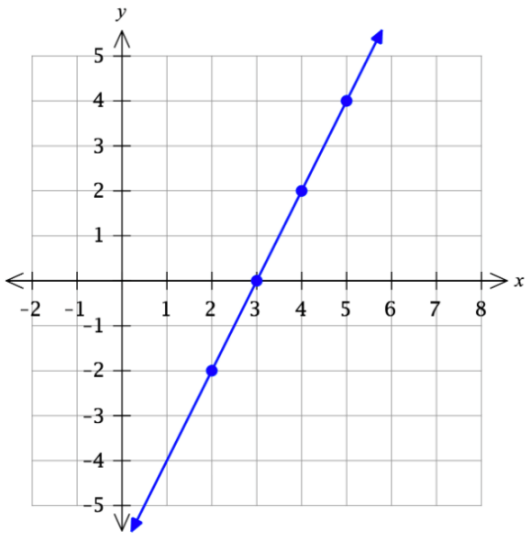
x	-2	0	2	4
y	2	3	4	5

1. Get a coordinate pair from the table eg. (-2, 2)
2. Check which graph goes through those coordinates

A



B



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Sketching a Straight Line from a Table of Values

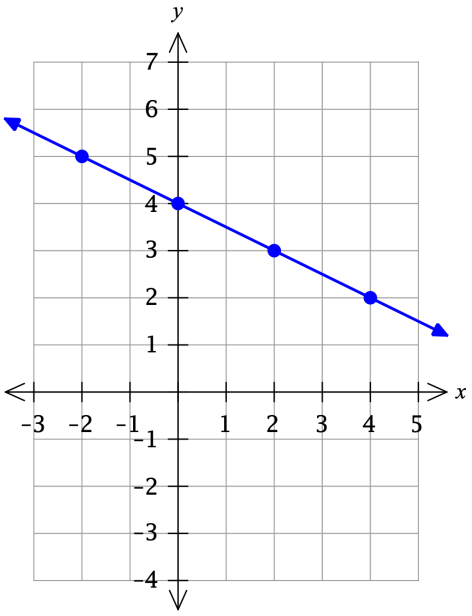
Question 6

Which option shows the points below plotted onto a Cartesian plane?

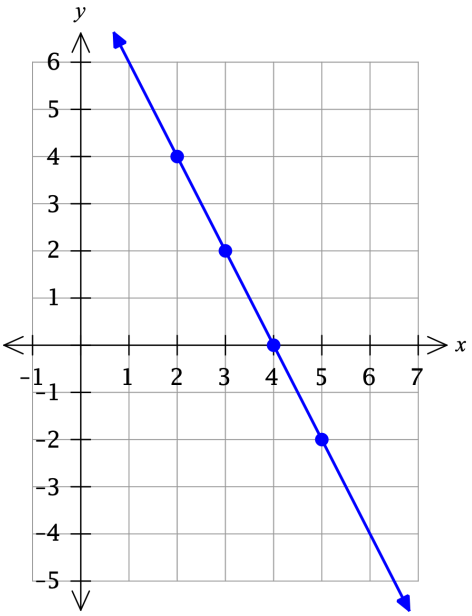
x	-2	0	2	4
y	5	4	3	2

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

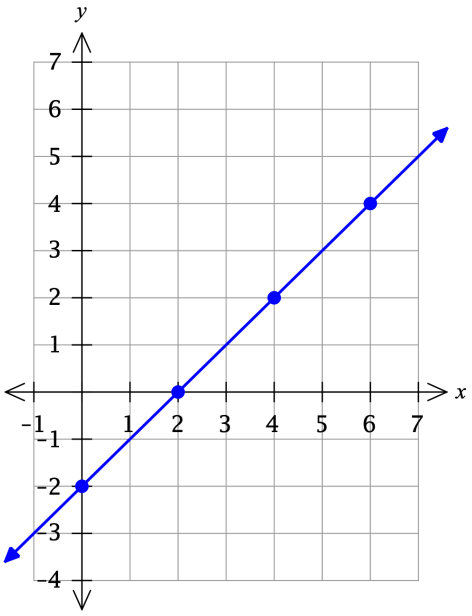
Question 7

Which option shows the points below plotted onto a Cartesian plane?

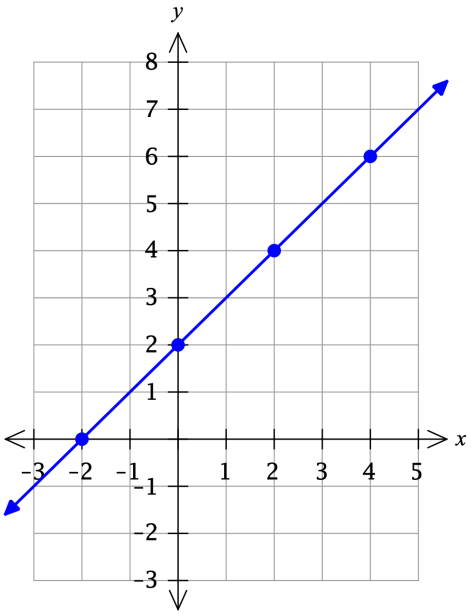
x	-2	0	2	4
y	0	2	4	6

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

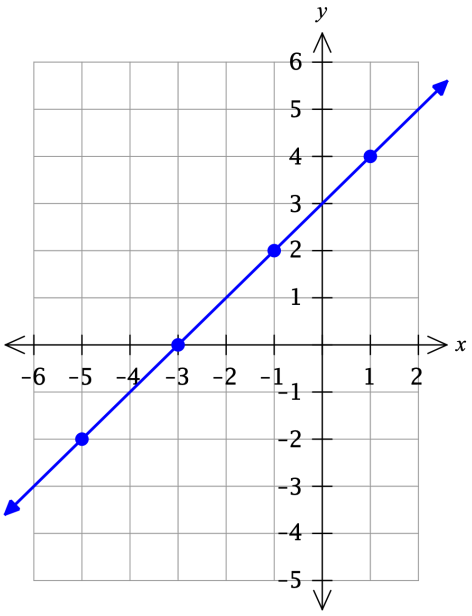
Question 8

Which option shows the points below plotted onto a Cartesian plane?

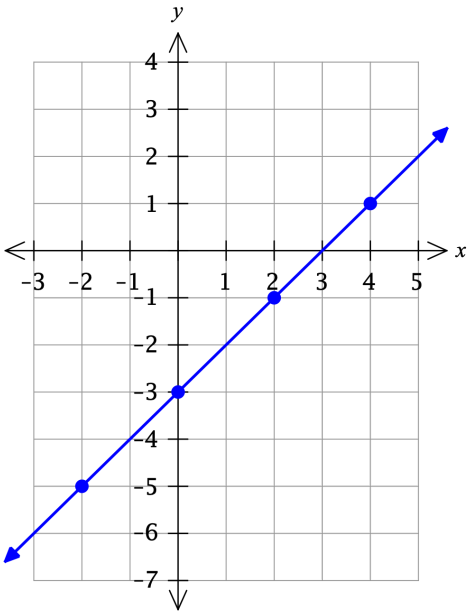
x	-2	0	2	4
y	-5	-3	-1	1

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

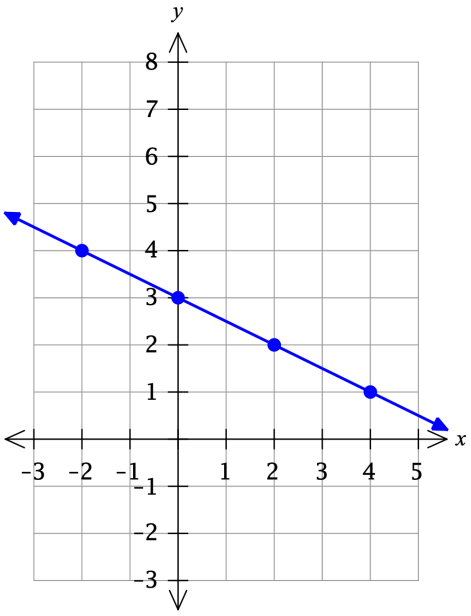
Question 9

Which option shows the points below plotted onto a Cartesian plane?

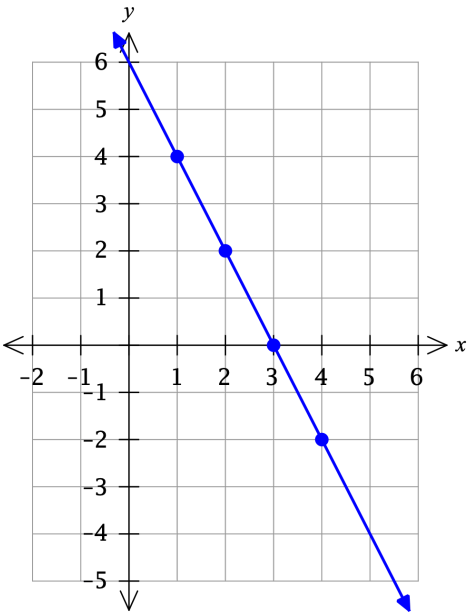
x	-2	0	2	4
y	4	3	2	1

Circle the correct option

A



B



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Sketching a Straight Line from a Table of Values

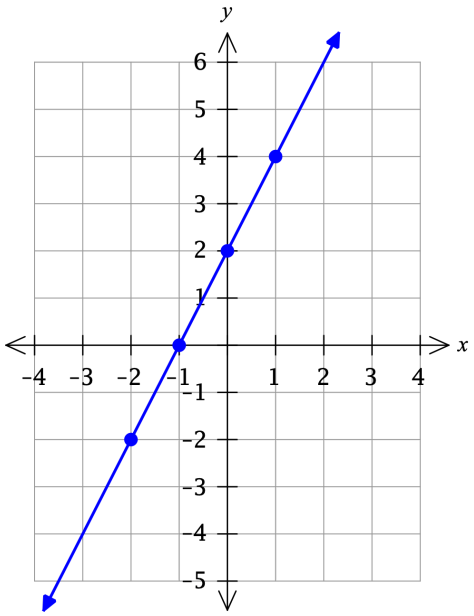
Question 10

Which option shows the points below plotted onto a Cartesian plane?

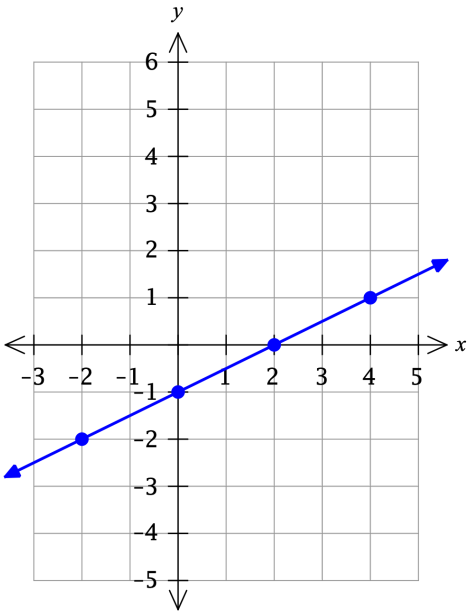
x	-2	0	2	4
y	-2	-1	0	1

Circle the correct option

A



B



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Exercise 6.3

A scientific calculator is permitted throughout this exercise.

Worked Example for Simple Questions

The table of values for the equation $y = 2x + 6$ is:

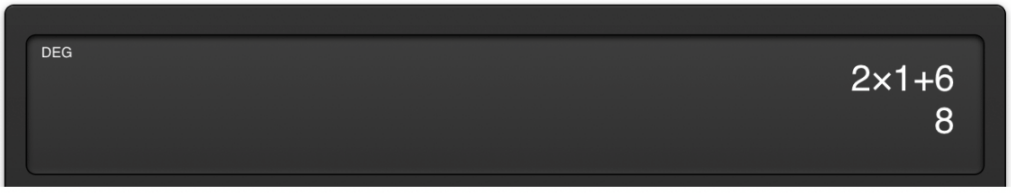
1. Sub an x-value into $y = 2x + 6$
   eg. $x = 1$, $y = 2 \times 1 + 6 = 8$
2. Check which table displays those x and y values as a pair.

A

x	-1	0	1	2
y	4	6	8	10

B

x	-1	0	1	2
y	8	10	12	14



Question 1

The table of values for the equation $y = 2x + 7$ is:

Circle the correct option

A

x	-1	0	1	2
y	5	7	9	11

B

x	-1	0	1	2
y	0	3	6	9

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Generating a Table of Values from an Equation

Question 2

The table of values for the equation $y = 3x + 9$ is:

Circle the correct option

A

x	-1	0	1	2
y	6	9	12	15

B

x	-1	0	1	2
y	4	8	12	16

Question 3

The table of values for the equation $y = 2x + 4$ is:

Circle the correct option

A

x	-1	0	1	2
y	2	4	6	8

B

x	-1	0	1	2
y	4	8	12	16

Question 4

The table of values for the equation $y = 2x + 5$ is:

Circle the correct option

A

x	-1	0	1	2
y	1	4	7	10

B

x	-1	0	1	2
y	3	5	7	9

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Generating a Table of Values from an Equation

Question 5

The table of values for the equation $y = 4x + 5$ is:

Circle the correct option

A

x	-1	0	1	2
y	1	5	9	13

B

x	-1	0	1	2
y	4	7	10	13

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Worked Example for Standard Questions

Fill in the table of values for the equation $y = -5x + 3$.

x	-2	-1	0	1	2
y	13	8	3	-2	-7

for $x = -2$, $y = -5 \times -2 + 3 = 10 + 3 = 13$
$x = -1$, $y = -5 \times -1 + 3 = 5 + 3 = 8$
$x = 0$, $y = -5 \times 0 + 3 = 0 + 3 = 3$
$x = 1$, $y = -5 \times 1 + 3 = -5 + 3 = -2$
$x = 2$, $y = -5 \times 2 + 3 = -10 + 3 = -7$

Question 6

Fill in the table of values for the equation $y = -3x + 3$.

x	-2	-1	0	1	2
y					

Question 7

Fill in the table of values for the equation $y = -4x$.

x	-2	-1	0	1	2
y					

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Generating a Table of Values from an Equation

Question 8

Fill in the table of values for the equation $y = -3x - 1$.

x	-2	-1	0	1	2
y					

Question 9

Fill in the table of values for the equation $y = -x + 4$.

x	-2	-1	0	1	2
y					

Question 10

Fill in the table of values for the equation $y = 5x + 1$.

x	-2	-1	0	1	2
y					

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Exercise 6.5

No calculators are permitted in this exercise.

Worked Example for Simple Questions

Find the gradient and the y-intercept for the equation:

$y = 4x + 9$

For equations in the form $y = mx + c$
m = gradient
c = y-intercept

gradient $=$ 4

$y-$intercept $=$ 9

Question 1

Find the gradient and the y-intercept for the equation:

$$y = 6x + 1$$

gradient $=$ ☐

y-intercept $=$ ☐

Question 2

Find the gradient and the y-intercept for the equation:

$$y = 4x + 10$$

gradient $=$ ☐

y-intercept $=$ ☐

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Question 3

Find the gradient and the y-intercept for the equation:

$$y = 8x + 3$$

gradient $=$ ☐

y-intercept $=$ ☐

Question 4

Find the gradient and the y-intercept for the equation:

$$y = 3x + 4$$

gradient $=$ ☐

y-intercept $=$ ☐

Question 5

Find the gradient and the y-intercept for the equation:

$$y = 6x + 5$$

gradient $=$ ☐

y-intercept $=$ ☐

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Worked Example for Standard Questions

Write the gradient and y-intercept of the straight line $y = 5x - 8$.

gradient $=$ 5 y-intercept $=$ -8

Compare to: $y = mx + c$
m = gradient
c = y-intercept

Question 6

Write the gradient and y-intercept of the straight line $y = 5x - 2$.

gradient $=$ y-intercept $=$

Question 7

Write the gradient and $y-$intercept of the straight line $y = 9 - 5x$.

gradient $=$ $y-$intercept $=$

Question 8

Write the gradient and y-intercept of the straight line $y = -7x - 4$.

gradient $=$ y-intercept $=$

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Question 9

Write the gradient and y-intercept of the straight line $y = -3 + 4x$.

gradient $=$ $\square$ y-intercept $=$ $\square$

Question 10

Write the gradient and y-intercept of the straight line $y = x - 5$.

gradient $=$ $\square$ y-intercept $=$ $\square$

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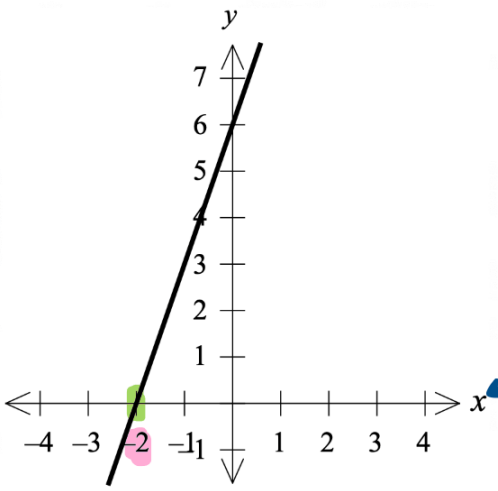
Exercise 6.7

No calculators are permitted in this exercise.

Worked Example for Simple Questions

Fill in the blanks to write the coordinates of the $x-$intercept for the graph below.



The x-intercept is where the graph crosses the x-axis.

The $x-$intercept is: (-2 , 0)

x-value ↑ y-value is always 0

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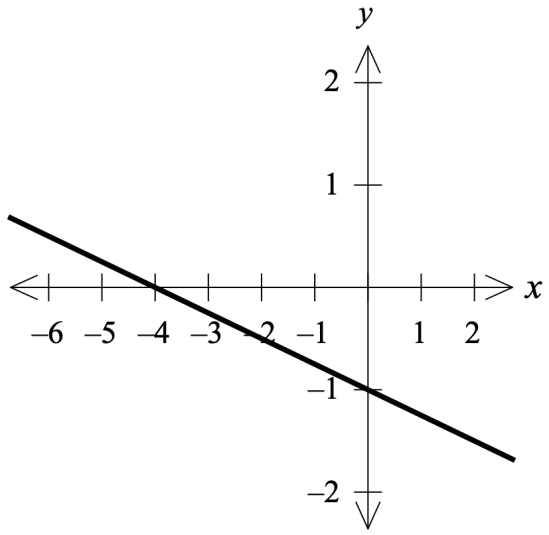
Finding x and y Intercepts from a Graph

Question 1

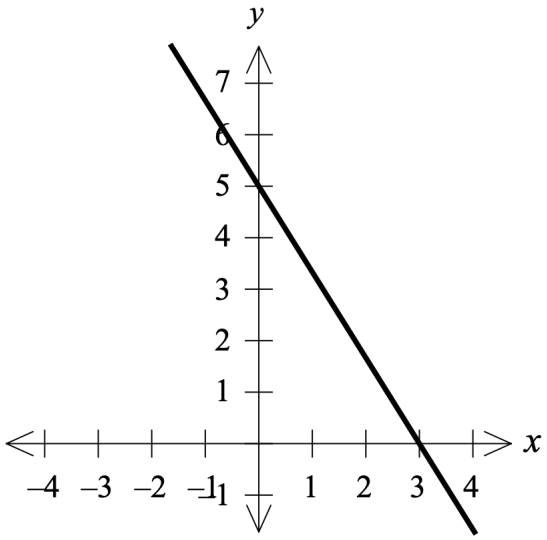
Fill in the blanks to write the coordinates of the x—intercept for the graph below.



The x—intercept is: (,)

Question 2

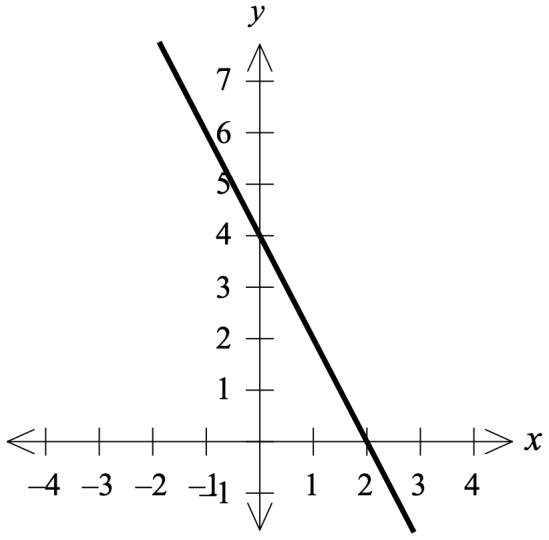
Fill in the blanks to write the coordinates of the x—intercept for the graph below.



The x—intercept is: (,)

Question 3

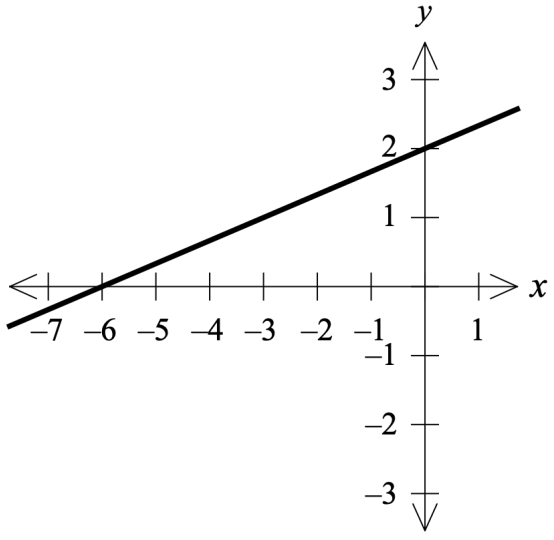
Fill in the blanks to write the coordinates of the x—intercept for the graph below.



The x—intercept is: (,)

Question 4

Fill in the blanks to write the coordinates of the x—intercept for the graph below.



The x—intercept is: (,)

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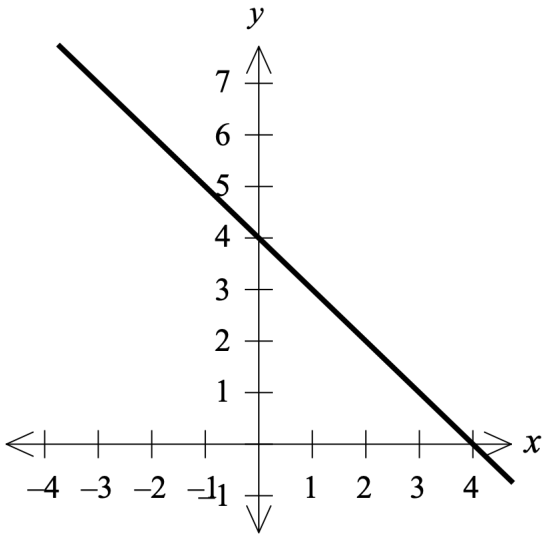
Finding x and y Intercepts from a Graph

Question 5

Fill in the blanks to write the coordinates of the x—intercept for the graph below.



The x—intercept is: $\left(\square\,,\square\right)$

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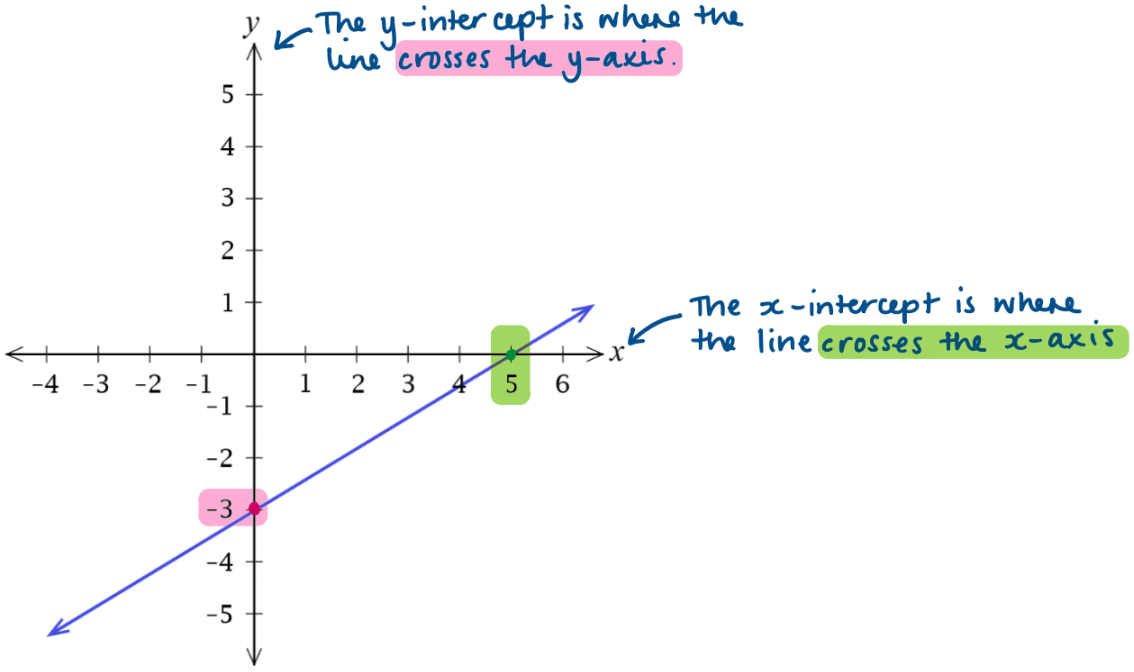
Worked Example for Standard Questions

Write the x-intercept and y-intercept for the graph below.



The y-intercept is where the line crosses the y-axis.

The x-intercept is where the line crosses the x-axis

x-intercept: (5 , 0)

↑ x-value

↑ y-value is 0 at the x-int

y-intercept: (0 , -3)

↑ x-value is 0 at the y-int

↑ y-value

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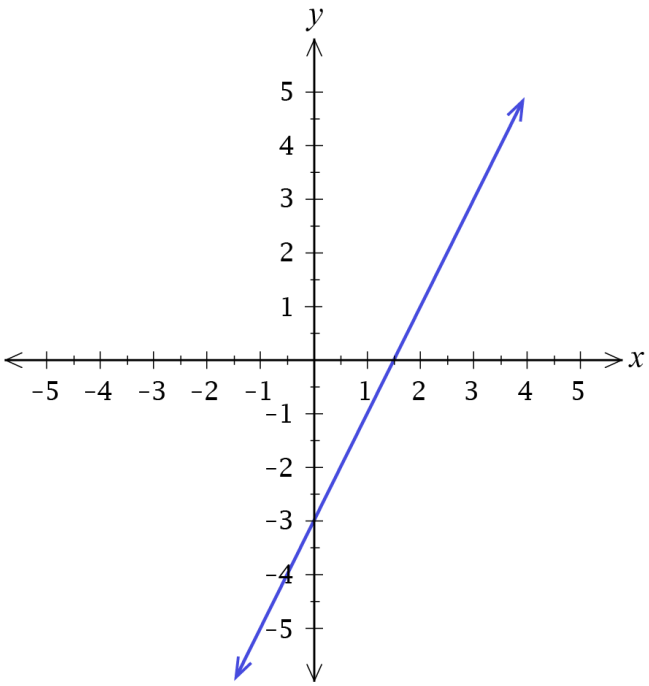
Finding x and y Intercepts from a Graph

Question 6

Write the y-intercept and x-intercept for the graph below.



y-intercept: $\left(\square, \square\right)$ x-intercept: $\left(\square, \square\right)$

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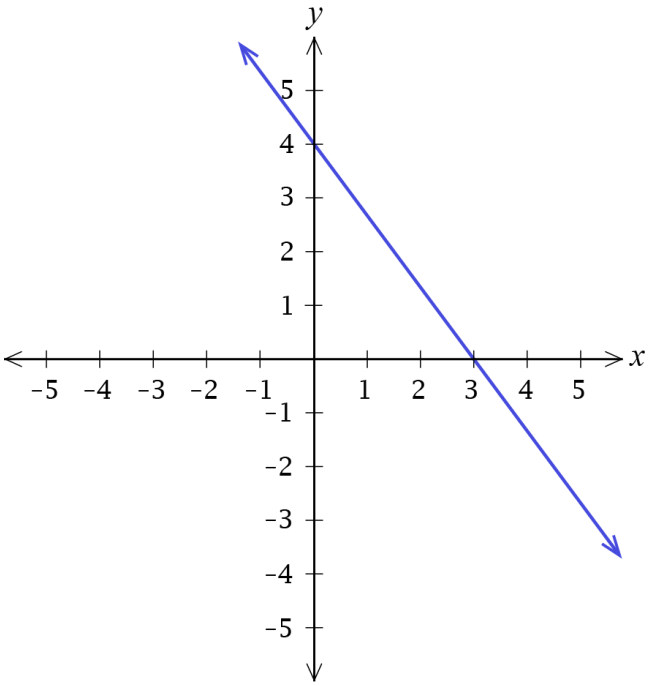
Finding x and y Intercepts from a Graph

Question 7

Write the y-intercept and x-intercept for the graph below.



y-intercept: $\left(\square, \square\right)$ x-intercept: $\left(\square, \square\right)$

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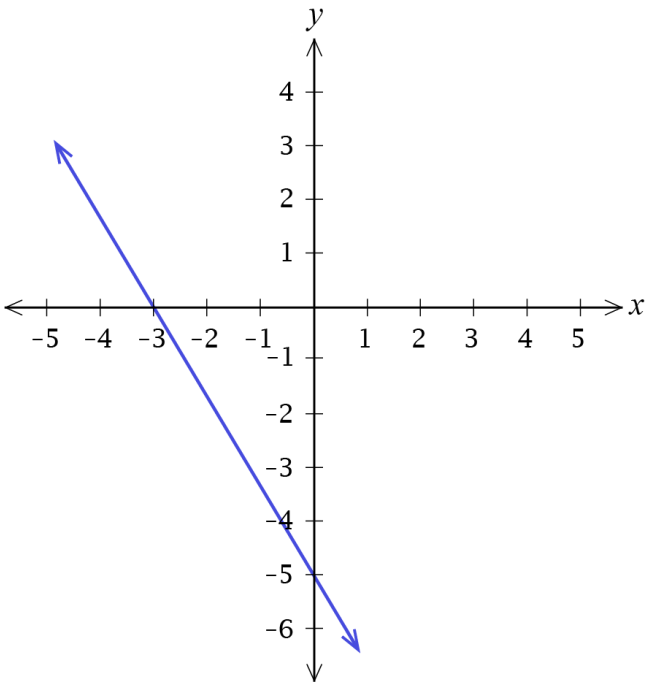
Finding x and y Intercepts from a Graph

Question 8

Write the y-intercept and x-intercept for the graph below.



y-intercept: $\left(\square, \square\right)$ x-intercept: $\left(\square, \square\right)$

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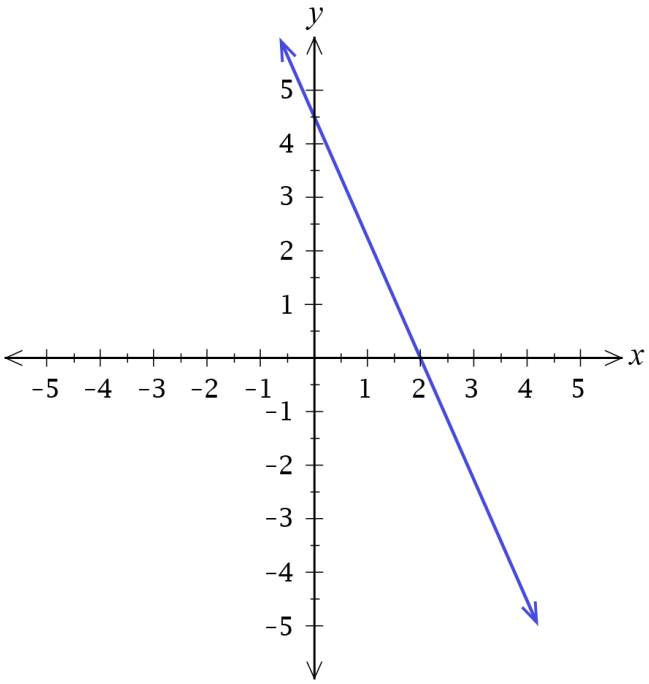
Finding x and y Intercepts from a Graph

Question 9

Write the x-intercept and y-intercept for the graph below.



x-intercept: $\left(\square, \square\right)$ y-intercept: $\left(\square, \square\right)$

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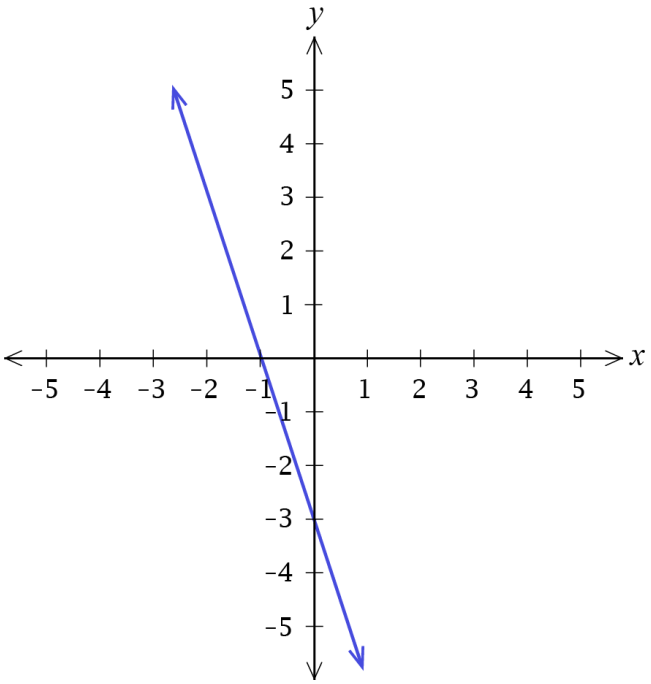
Finding x and y Intercepts from a Graph

Question 10

Write the x-intercept and y-intercept for the graph below.



x-intercept: $\left(\square, \square\right)$ y-intercept: $\left(\square, \square\right)$

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Exercise 6.9

No calculators are permitted in this exercise.

Worked Example for Simple Questions

For the equation:

$y = -9x + 11$

For an equation in the form $y = mx + c$
c = y-intercept

The coordinates of the y—**intercept** are: (0 , 11)

y-value = c

x-value is always 0

Question 1

For the equation:

$y = -2x + 6$

The coordinates of the y—**intercept** are: (,)

Question 2

For the equation:

$y = -4x + 20$

The coordinates of the y—**intercept** are: (,)

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Finding x and y Intercepts from an Equation

Question 3

For the equation:

$$y = -2x + 10$$

The coordinates of the ***y*—intercept** are: $\left(\ \square\ ,\ \square\ \right)$

Question 4

For the equation:

$$y = -5x + 15$$

The coordinates of the ***y*—intercept** are: $\left(\ \square\ ,\ \square\ \right)$

Question 5

For the equation:

$$y = -3x + 15$$

The coordinates of the ***y*—intercept** are: $\left(\ \square\ ,\ \square\ \right)$

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Worked Example for Standard Questions

Write the x-intercept and y-intercept for the equation:

$y = 6x + 24$

↑ y-int

x—intercept: (-4 , 0)

y—intercept: (0 , 24)

* Sub in $y=0$ and solve for x-int

$y = 6x + 24$

$0 = 6x + 24$

$-24 \quad -24$

$\frac{-24}{6} = \frac{6x}{6}$

$-4 = x$

x-intercept is $(-4, 0)$

Question 6

Write the x-intercept and y-intercept for the equation:

$y = -5x + 20$

x—intercept: (,)

y—intercept: (,)

Question 7

Write the x-intercept and y-intercept for the equation:

$y = 4x + 16$

x—intercept: (,)

y—intercept: (,)

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Finding x and y Intercepts from an Equation

Question 8

Write the x-intercept and y-intercept for the equation:

$y = -7x + 14$

$x-$intercept: $\left(\ \square\ ,\ \square\ \right)$

$y-$intercept: $\left(\ \square\ ,\ \square\ \right)$

Question 9

Write the x-intercept and y-intercept for the equation:

$y = -5x + 12$

$x-$intercept: $\left(\ \frac{\square}{\square}\ ,\ \square\ \right)$

$y-$intercept: $\left(\ \square\ ,\ \square\ \right)$

Question 10

Write the x-intercept and y-intercept for the equation:

$y = -3x + 8$

$x-$intercept: $\left(\ \frac{\square}{\square}\ ,\ \square\ \right)$

$y-$intercept: $\left(\ \square\ ,\ \square\ \right)$

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Finding x and y Intercepts from a Table of Values

Exercise 6.11

No calculators are permitted in this exercise.

Worked Example for Simple Questions

Here is a table of values for $y = 2x + 4$.

x	-2	-1	0	1	2
y	0	2	4	6	8

The x-intercept is where $y = 0$

Fill in the blanks to write the coordinates of the **x-intercept**.

$x-$intercept: (-2 , 0)

x-value, y-value $= 0$

Question 1

Here is a table of values for $y = 3x + 6$.

x	-2	-1	0	1	2
y	0	3	6	9	12

Fill in the blanks to write the coordinates of the **x-intercept**.

$x-$intercept: (☐ , ☐)

Question 2

Here is a table of values for $y = 2x - 2$.

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

Fill in the blanks to write the coordinates of the **x-intercept**.

$x-$intercept: (☐ , ☐)

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Finding x and y Intercepts from a Table of Values

Question 3

Here is a table of values for $y = 5x - 10$.

x	-2	-1	0	1	2
y	-20	-15	-10	-5	0

Fill in the blanks to write the coordinates of the ***x*-intercept**.

$x-$intercept: $($ $\square$, $\square$ $)$

Question 4

Here is a table of values for $y = 6x - 6$.

x	-2	-1	0	1	2
y	-18	-12	-6	0	6

Fill in the blanks to write the coordinates of the ***x*-intercept**.

$x-$intercept: $($ $\square$, $\square$ $)$

Question 5

Here is a table of values for $y = 7x + 7$.

x	-2	-1	0	1	2
y	-7	0	7	14	21

Fill in the blanks to write the coordinates of the ***x*-intercept**.

$x-$intercept: $($ $\square$, $\square$ $)$

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Finding x and y Intercepts from a Table of Values

Worked Example for Standard Questions

Here is a table of values for $y = 2x - 4$.

x	-3	-2	-1	0	1	2
y	-10	-8	-6	-4	-2	0

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: (2 , 0) The x-intercept is where y=0

$y-$intercept: (0 , -4) The y-intercept is where x=0

↑ x ↑ y

Question 6

Here is a table of values for $y = -\frac{x}{3} + 2$.

x	0	1	2	3	4	5	6
y	2	$1\frac{2}{3}$	$1\frac{1}{3}$	1	$\frac{2}{3}$	$\frac{1}{3}$	0

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: (☐ , ☐)

$y-$intercept: (☐ , ☐)

Question 7

Here is a table of values for $y = -4x + 8$.

x	-1	0	1	2	3	4
y	12	8	4	0	-4	-8

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: (☐ , ☐)

$y-$intercept: (☐ , ☐)

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Finding x and y Intercepts from a Table of Values

Question 8

Here is a table of values for $y = 3x - 9$.

x	-2	-1	0	1	2	3	4
y	-15	-12	-9	-6	-3	0	3

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: $($ $\square$, $\square$ $)$

$y-$intercept: $($ $\square$, $\square$ $)$

Question 9

Here is a table of values for $y = -6x + 12$.

x	-3	-2	-1	0	1	2
y	30	24	18	12	6	0

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: $($ $\square$, $\square$ $)$

$y-$intercept: $($ $\square$, $\square$ $)$

Question 10

Here is a table of values for $y = 4x - 12$.

x	-2	-1	0	1	2	3
y	-20	-16	-12	-8	-4	0

Write the coordinates of the x-intercept and the y-intercept.

$x-$intercept: $($ $\square$, $\square$ $)$

$y-$intercept: $($ $\square$, $\square$ $)$

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