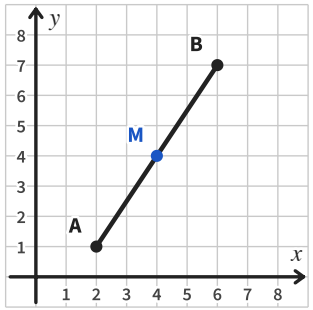
The midpoint of a line segment

ANSWERS

1

Find the midpoint of **AB**.

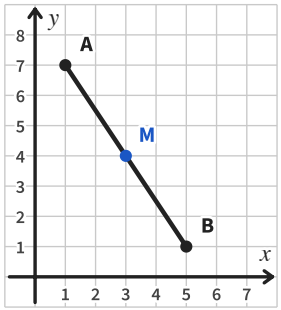


	A	B	Midpoint
x	2	6	4
y	1	7	4

Midpoint (4, 4)

2

Find the midpoint of **AB**.

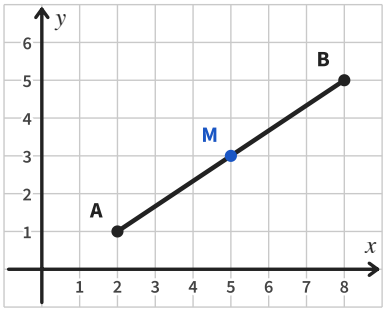


	A	B	Midpoint
x	1	5	3
y	7	1	4

Midpoint (3, 4)

3

Find the midpoint of **AB**.

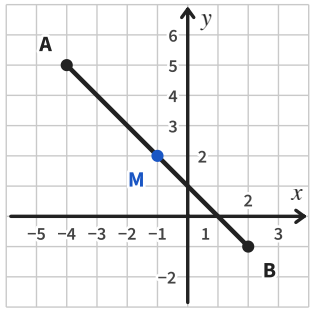


	A	B	Midpoint
x	2	8	5
y	1	5	3

Midpoint (5, 3)

4 *Notice the change!*

Find the midpoint of **AB**.



	A	B	Midpoint
x	−4	2	−1
y	5	−1	2

Midpoint (−1, 2)

5

A is (3, 5) and **B** is (8, 1).
Find the midpoint of **AB**.

	A	B	Midpoint
x	3	8	5.5
y	5	1	3

x: 3 + 8 = 11, 11 ÷ 2 = 5.5

y: 5 + 1 = 6, 6 ÷ 2 = 3

Midpoint (5.5, 3)

6

P is (−6, −2) and **Q** is (4, 8).
Find the midpoint of **PQ**.

	P	Q	Midpoint
x	−6	4	−1
y	−2	8	3

x: −6 + 4 = −2, −2 ÷ 2 = −1

y: −2 + 8 = 6, 6 ÷ 2 = 3

Midpoint (−1, 3)

7

Ellie says the midpoint of (2, 5) and (10, 9) is (4, 2). Explain her mistake and find the midpoint.

She took the coordinates away.

Add them, then halve.

Midpoint (6, 7)

8

M (5, 4) is the midpoint of **AB**. **A** is (2, 1).
Find the coordinates of **B**.

	A	M	B
x	2	5	8
y	1	4	7

A to M: across 3, up 3

B (8, 7)

The midpoint of a line segment *further practice*

ANSWERS

9

A is (−3, 7) and B is (5, 1).
Find the midpoint of AB.

−3 + 5 = 2, 2 ÷ 2 = 1

7 + 1 = 8, 8 ÷ 2 = 4

Midpoint (1, 4)

10

C is (−2, 3) and D is (3, −4).
Find the midpoint of CD.

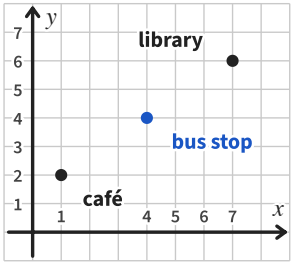
−2 + 3 = 1, 1 ÷ 2 = 0.5

3 + −4 = −1, −1 ÷ 2 = −0.5

Midpoint (0.5, −0.5)

11

On this map, a bus stop is halfway between the café and the library.
Find the coordinates of the bus stop.



café (1, 2), library (7, 6)

8 ÷ 2 = 4, 8 ÷ 2 = 4

Bus stop (4, 4)

12

M (−1, 2) is the midpoint of AB.
A is (3, 5). Find the coordinates of B.

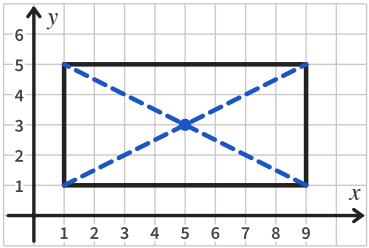
A to M: left 4, down 3

−1 − 4 = −5, 2 − 3 = −1

B (−5, −1)

13

A rectangle has corners (1, 1), (9, 1), (9, 5) and (1, 5). Its diagonals cross at its centre. Find the centre.



midpoint of (1, 1) and (9, 5)

10 ÷ 2 = 5, 6 ÷ 2 = 3

Centre (5, 3)

14

A is (0, 0) and B is (8, 4). M is the midpoint of AB. N is the midpoint of AM. Find the coordinates of N.

M is (4, 2)

N: 4 ÷ 2 = 2, 2 ÷ 2 = 1

N (2, 1)

15

M (4, 5) is the midpoint of AB. A is on the y axis and B is on the x axis.
Find A and B.

B: (0 + 8) ÷ 2 = 4

A: (10 + 0) ÷ 2 = 5

A and B A (0, 10), B (8, 0)

16

Sara says (3, 4) is halfway between (1, 1) and (5, 6). Is she right?
Explain how you know.

the midpoint is (3, 3.5)

1 + 6 = 7, 7 ÷ 2 = 3.5, not 4

Answer No