8.9 Geometry: Coordinates and Transformations: 1-hour Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Point B is at (-4, -4). It is reflected in the x-axis.

What are the coordinates of the image of B?

Answer: (___, ___)

(1)

---

2 Point P is at (0, 4). It moves 2 units right and 3 units down.

What are the coordinates of the new point?

Answer: (___, ___)

(2)

---

3 Points C and D are at (-6, 6) and (-1, 6). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

© Revision Library | revisionlibrary.co.uk

4 Two angles in a triangle are 51 degrees and 42 degrees.

What is the third angle?

Answer: ___ degrees

(2)

---

5 Point P is at (-3, -4). It moves 3 units left and 5 units up.

What are the coordinates of the new point?

Answer: (___, ___)

(1)

---

6 Point M at (0, -3) is translated by the vector (-4, 6). What are the coordinates of M'?

(2)

---

7 A shape has vertices A(6, 0), B(4, 4), C(1, 2). It is translated 4 units right and 2 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

8 A shape has vertices A(2, 2), B(5, 6), C(1, 6), D(2, 5). It is translated 1 unit right and 3 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

---

9 A line joins (0, 8) and (4, 8).

What are the coordinates of the midpoint of the line?

Answer: (___, ___)

(1)

---

10 Points C and D are at (-3, -6) and (-3, -2). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

---

11 Quadrilateral Q has vertices at (2, -1), (5, -1), (5, 2) and (2, 2). Reflect Q in the x-axis. Give the coordinates of the image Q'.

(2)

© Revision Library | revisionlibrary.co.uk

12 A shape has vertices A(4, 4), B(2, 4), C(3, 3). It is translated 1 unit right and 3 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

---

13 Three angles in a quadrilateral are 73, 58 and 58 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

---

14 Point B is at (1, 6). It is reflected in the y-axis.

What are the coordinates of the image of B?

Answer: (___, ___)

(2)

---

15 Point P is at (-5, 0). It moves 1 unit right and 4 units down.

What are the coordinates of the new point?

Answer: (___, ___)

(2)

© Revision Library | revisionlibrary.co.uk

16 A shape has vertices A(0, 1), B(1, 4), C(4, 5), D(0, 6). It is translated 2 units right and 1 unit up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

---

17 Point A is at (-2, -3). It is translated by the vector (-1, 4), where the first number is the move to the right and the second is the move up.

What are the coordinates of the image of A?

Answer: (___, ___)

(2)

---

18 A shape has vertices A(3, 6), B(5, 4), C(1, 5), D(3, 1). It is translated 3 units right and 1 unit up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

© Revision Library | revisionlibrary.co.uk

19 A shape has vertices A(3, 0), B(1, 1), C(4, 3), D(5, 0). It is translated 2 units right and 4 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

---

20 Three corners of a rectangle are (3, 2), (6, 2) and (6, 4). The sides are parallel to the axes.

What are the coordinates of the fourth corner?

Answer: (___, ___)

(2)

---

21 Two angles in a triangle are 73 degrees and 85 degrees.

What is the third angle?

Answer: ___ degrees

(2)

---

22 Point P is at (3, 0). It moves 2 units left and 6 units up.

What are the coordinates of the new point?

Answer: (___, ___)

(2)

© Revision Library | revisionlibrary.co.uk

23 Point B is at (6, 3). It is reflected in the x-axis.

What are the coordinates of the image of B?

Answer: (___, ___)

(2)

---

24 An isosceles triangle has two equal angles of 72 degrees each.

What is the third angle?

Answer: ___ degrees

(2)

---

25 Point B is at (-4, 5). It is reflected in the y-axis.

What are the coordinates of the image of B?

Answer: (___, ___)

(1)

© Revision Library | revisionlibrary.co.uk

26 Two angles in a triangle are 56 degrees and 72 degrees.

What is the third angle?

Answer: ___ degrees

(2)

---

27 Points H(1, 2) and J(1, -4) are plotted. What is the length of HJ?

(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 8.9 Geometry: Coordinates and Transformations: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(-4, 4) cao — **B1**

Answer: **(-4, 4)**

Question 2

one coordinate correct — **M1**

(2, 1) cao — **A1**

Answer: **(2, 1)**

Question 3

5 units cao — **B1**

Answer: **5 units**

Question 4

93 seen — **M1**

87 degrees cao — **A1**

Answer: **87 degrees**

Question 5

(-6, 1) cao — **B1**

Answer: **(-6, 1)**

Question 6

Add vector: 0 + (-4) and -3 + 6 — **M1**

(-4, 3) cao — **B1**

Answer: **(-4, 3)**

Question 7

two vertices correct — **M1**

(10, 2), (8, 6), (5, 4) cao — **A1**

Answer: **(10, 2), (8, 6), (5, 4)**

Question 8

two vertices correct — **M1**

(3, 5), (6, 9), (2, 9), (3, 8) cao — **A1**

Answer: **(3, 5), (6, 9), (2, 9), (3, 8)**

Question 9

(2, 8) cao — **B1**

Answer: **(2, 8)**

Question 10

4 units cao — **B1**

Answer: **4 units**

Question 11

Change sign of y for at least two vertices — **M1**

(2,1), (5,1), (5,-2), (2,-2) cao — **B1**

Answer: **(2, 1), (5, 1), (5, -2), (2, -2)**

Question 12

two vertices correct — **M1**

(5, 7), (3, 7), (4, 6) cao — **A1**

Answer: **(5, 7), (3, 7), (4, 6)**

Question 13

189 seen — **M1**

171 degrees cao — **A1**

Answer: **171 degrees**

Question 14

one coordinate correct — **M1**

(-1, 6) cao — **A1**

Answer: **(-1, 6)**

Question 15

one coordinate correct — **M1**

(-4, -4) cao — **A1**

Answer: **(-4, -4)**

Question 16

two vertices correct — **M1**

(2, 2), (3, 5), (6, 6), (2, 7) cao — **A1**

Answer: **(2, 2), (3, 5), (6, 6), (2, 7)**

Question 17

adds the vector — **M1**

(-3, 1) cao — **A1**

Answer: **(-3, 1)**

Question 18

two vertices correct — **M1**

(6, 7), (8, 5), (4, 6), (6, 2) cao — **A1**

Answer: **(6, 7), (8, 5), (4, 6), (6, 2)**

Question 19

two vertices correct — **M1**

(5, 4), (3, 5), (6, 7), (7, 4) cao — **A1**

Answer: **(5, 4), (3, 5), (6, 7), (7, 4)**

Question 20

one coordinate correct — **M1**

(3, 4) cao — **A1**

Answer: **(3, 4)**

Question 21

158 seen — **M1**

22 degrees cao — **A1**

Answer: **22 degrees**

Question 22

one coordinate correct — **M1**

(1, 6) cao — **A1**

Answer: **(1, 6)**

© Revision Library | revisionlibrary.co.uk

Question 23

one coordinate correct	**M1**
(6, -3) cao	**A1**

Answer: **(6, -3)**

Question 24

144 seen	**M1**
36 degrees cao	**A1**

Answer: **36 degrees**

Question 25

(4, 5) cao	**B1**

Answer: **(4, 5)**

Question 26

128 seen	**M1**
52 degrees cao	**A1**

Answer: **52 degrees**

Question 27

Find vertical difference: 2 - (-4) or |2 to -4| = 6	**M1**
6 cao	**B1**

Answer: **6**

© Revision Library | revisionlibrary.co.uk