8.5 Geometry: Symmetry, Coordinates and Translation: 30-minute Pack

Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Point A is at (5, 5). It is translated by the vector (0, -3), 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)

---

2 A line joins (0, 8) and (2, 8).

What are the coordinates of the midpoint of the line?

Answer: (___, ___)

(1)

---

3 Four angles meet at a point and add up to 360 degrees. Three of the angles are 118, 86 and 97 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

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4 The minute hand of a clock turns clockwise from 12 to the number 5.

Through how many degrees has it turned?

Answer: ___ degrees

(2)

---

5 Four angles meet at a point and add up to 360 degrees. Three of the angles are 89, 97 and 31 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

---

6 A shape has vertices A(2, 6), B(3, 0), C(6, 0), D(1, 0). It is translated 1 unit left and 1 unit up.

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

Answer: ___

(2)

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7 Points C and D are at (2, 4) and (2, 6). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

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8 Angles on a straight line add up to 180 degrees. One angle is 103 degrees.

What is the other angle?

Answer: ___ degrees

(1)

---

9 Points C and D are at (3, 0) and (3, 7). Each grid square is 1 unit wide.

How far is C from D?

Answer: ___ units

(1)

---

10 An angle measures 266 degrees. Is it acute, obtuse or reflex?

Answer: ___

(1)

---

11 Angles on a straight line add up to 180 degrees. One angle is 34 degrees.

What is the other angle?

Answer: ___ degrees

(1)

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12 Four angles meet at a point and add up to 360 degrees. Three of the angles are 116, 77 and 78 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

---

13 Point A is at (4, 5). It is translated by the vector (5, -2), 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)

---

14 A shape has vertices A(6, 3), B(3, 2), C(4, 6). It is translated 1 unit left and 3 units up.

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

Answer: ___

(2)

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15 A pair of coordinates are (1, 3) and (7, 3). Which line are these two points symmetric about? Give the equation of the vertical line.

(2)

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Mark scheme · 8.5 Geometry: Symmetry, Coordinates and Translation: 30-minute Pack

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

Question 1

adds the vector	M1
(5, 2) cao	A1

Answer: **(5, 2)**

Question 2

(1, 8) cao	B1

Answer: **(1, 8)**

Question 3

301 seen	M1
59 degrees cao	A1

Answer: **59 degrees**

Question 4

30 degrees for each number	M1
150 degrees cao	A1

Answer: **150 degrees**

Question 5

217 seen	M1
143 degrees cao	A1

Answer: **143 degrees**

Question 6

two vertices correct	M1
(1, 7), (2, 1), (5, 1), (0, 1) cao	A1

Answer: **(1, 7), (2, 1), (5, 1), (0, 1)**

Question 7

2 units cao	B1

Answer: **2 units**

Question 8

77 degrees cao	B1

Answer: **77 degrees**

Question 9

7 units cao	B1

Answer: **7 units**

Question 10

reflex cao	B1

Answer: **reflex**

Question 11

146 degrees cao	B1

Answer: **146 degrees**

Question 12

271 seen	M1
89 degrees cao	A1

Answer: **89 degrees**

Question 13

adds the vector	M1
(9, 3) cao	A1

Answer: **(9, 3)**

Question 14

two vertices correct	M1
(5, 6), (2, 5), (3, 9) cao	A1

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

Question 15

Find midpoint of x-coordinates: (1 + 7)/2 = 4	M1
x = 4 cao	B1

Answer: **x = 4**

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