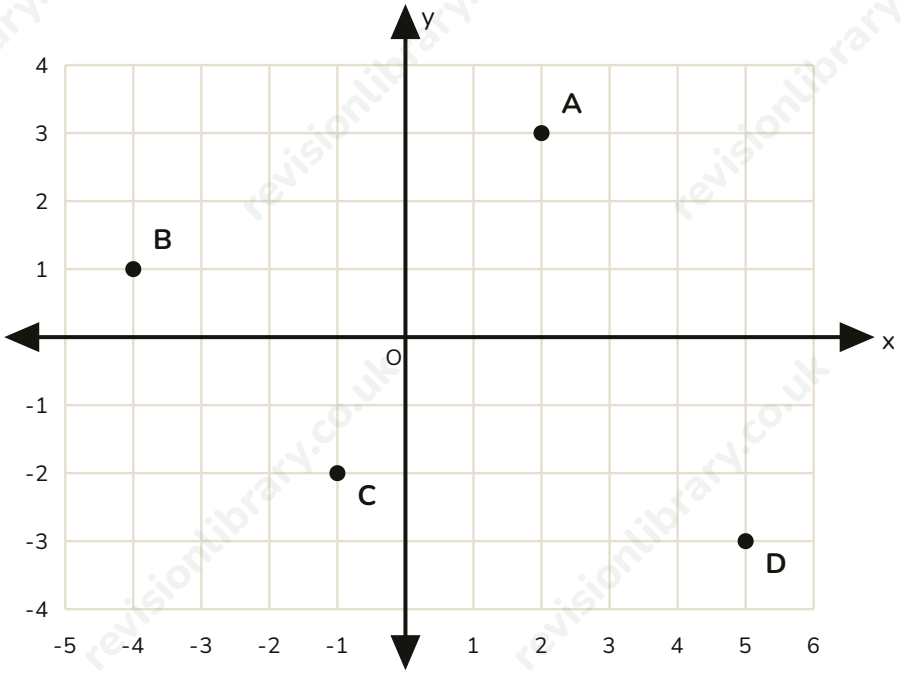
4.13 Coordinates and Line Geometry: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write down the coordinates of each labelled point.



(a) Point A **(1)**

.....

(b) Point B **(1)**

.....

(c) Point C **(1)**

.....

(d) Point D **(1)**

.....

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2 Does the point (4, 13) lie on the line $y = 2x + 6$? You must show your working.

(2)

---

3 Work out the distance between (-4, 0) and (0, 1). Give your answer correct to 1 decimal place.

(3)

---

4 Write down the equation of (a) the horizontal line and (b) the vertical line that pass through the point (3, -6).

(2)

---

5 Work out the distance between the points (-3, 3) and (4, 27).

(3)

---

6 Find the coordinates of the points where the line $y = 3x - 18$ crosses (a) the y-axis (b) the x-axis.

(2)

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7 Reflect the point R(4, -2) in the x-axis. Write down the coordinates of the image.

(1)

---

8 In which quadrant does the point P (-2, -2) lie?

(1)

---

9 Work out the gradient of the straight line through (4, -6) and (5, -7).

(2)

---

10 Work out the distance between the points (1, -4) and (4, 0).

(3)

---

11 Work out the gradient of the straight line through (2, -14) and (3, -18).

(2)

---

12 Work out the distance between (1, -1) and (2, 0). Give your answer correct to 1 decimal place.

(3)

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13 A is the point (-6, -2) and B is the point (-8, -7). Work out the coordinates of the midpoint of AB.

(2)

---

14 Reflect the point S(-5, 6) in the y-axis. Write down the coordinates of the image.

(1)

---

15 Work out the gradient of the straight line through (3, 20) and (4, 25).

(2)

---

16 Does the point (0, 5) lie on the line $y = 3x + 6$? You must show your working.

(2)

---

17 A is the point (8, 8) and B is the point (5, 2). Work out the coordinates of the midpoint of AB.

(2)

---

18 M is the midpoint of AB. A is (-3, 4) and M is (-0.5, 4). Work out the coordinates of B.

(3)

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19 Three corners of a rectangle are (-9, -2), (-7, -2) and (-7, 2). Write down the coordinates of the fourth corner and work out the area of the rectangle.

(3)

---

20 Find the coordinates of the point where the line y = -2x - 10 crosses the x-axis.

(2)

---

21 Calculate the distance between E(6, 4) and F(6, -9).

(2)

---

22 State which axis the point (0, -8) lies on.

(1)

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Mark scheme · 4.13 Coordinates and Line Geometry: 1-hour Pack

Question 1

(a) (2, 3) cao **B1**

(a) Answer: **(2, 3)**

(b) (-4, 1) cao **B1**

(b) Answer: **(-4, 1)**

(c) (-1, -2) cao **B1**

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

(d) (5, -3) cao **B1**

(d) Answer: **(5, -3)**

Question 2

substitutes x = 4 to get y = 14 **M1**

No with comparison **A1**

Answer: **No**

Question 3

$4^2 + 1^2 = 17$ **M1**

$\sqrt{17}$ **M1**

4.1 cao **A1**

Answer: **4.1**

Question 4

(a) y = -6 **B1**

(b) x = 3 **B1**

Answer: **(a) y = -6, (b) x = 3**

Question 5

differences 7 and 24 **M1**

$\sqrt{7^2 + 24^2}$ **M1**

25 cao **A1**

Answer: **25**

Question 6

(a) (0, -18) **B1**

(b) (6, 0) **B1**

Answer: **(a) (0, -18), (b) (6, 0)**

Question 7

(4, 2) cao (reflecting in x-axis changes sign of y) **B1**

Answer: **(4, 2)**

Question 8

third quadrant cao **B1**

Answer: **third quadrant**

Question 9

(-7 - (-6))/(5 - (4)) or equivalent **M1**

-1 cao **A1**

Answer: **-1**

Question 10

differences 3 and 4 **M1**

$\sqrt{3^2 + 4^2}$ **M1**

5 cao **A1**

Answer: **5**

Question 11

(-18 - (-14))/(3 - (2)) or equivalent **M1**

-4 cao **A1**

Answer: **-4**

Question 12

$1^2 + 1^2$ **M1**

$\sqrt{2}$ **M1**

1.4 cao **A1**

Answer: **1.4**

Question 13

adds the x-coordinates (or y-coordinates) and halves **M1**

(-7, -4.5) cao **A1**

Answer: **(-7, -4.5)**

Question 14

(5, 6) cao (reflecting in y-axis changes sign of x) **B1**

Answer: **(5, 6)**

Question 15

(25 - (20))/(4 - (3)) or equivalent **M1**

5 cao **A1**

Answer: **5**

Question 16

substitutes x = 0 to get y = 6 **M1**

No with comparison **A1**

Answer: **No**

Question 17

adds the x-coordinates (or y-coordinates) and halves **M1**

(6.5, 5) cao **A1**

Answer: **(6.5, 5)**

Question 18

uses the change from A to M **M1**

applies the same change again from M **M1**

(2, 4) cao **A1**

Answer: **(2, 4)**

Question 19

uses matching x and y values **M1**

(-9, 2) **A1**

area 8 **A1**

Answer: **(-9, 2), area 8**

Question 20

substitutes y = 0 **M1**

(-5, 0) cao **A1**

Answer: **(-5, 0)**

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Question 21

recognise the points share an x-coordinate, so subtract the y-coordinates **M1**

13 cao **A1**

Answer: **13**

Question 22

y-axis cao **B1**

Answer: **y-axis**

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