

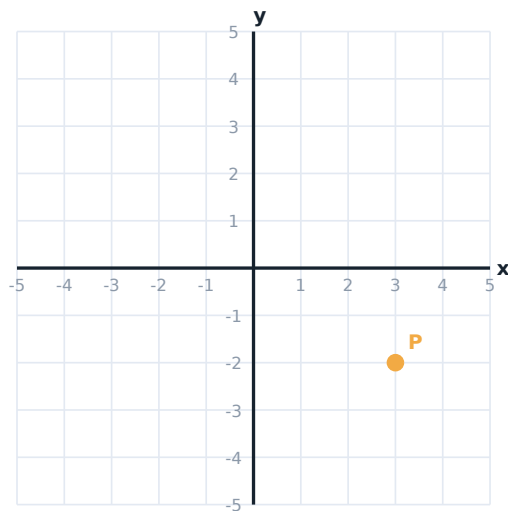
Name _____

Date _____

Stage 7 End-of-unit test 11 — mark scheme

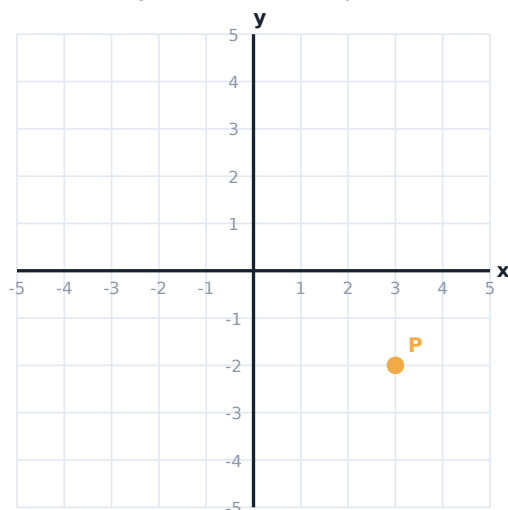
21 questions · 41 marks · calculators are not allowed · allow about 45 minutes

- 1 What is the x-coordinate of point P? [1]

**Answer: 3**

P is at (3, -2); the x-coordinate is the first number.

- 2 What is the y-coordinate of point P? [1]

**Answer: -2**

The second number.

- 3 In which quadrant is $(-4, 3)$? Give the number. [2]

Answer: 2

x negative, y positive — top left, quadrant 2.

- 4 In which quadrant is $(2, -5)$? Give the number. [2]

Answer: 4

x positive, y negative — bottom right.

- 5 Which number comes first in a coordinate pair? [1]

- ☐ The y-coordinate
- ☐ The x-coordinate
- ☐ Either
- ☐ The larger

Answer: The x-coordinate

Across first, then up.

- 6 How far apart are $(-4, 2)$ and $(6, 2)$? [2]

Answer: 10

Same y, so $6 - (-4) = 10$.

- 7 What is the x-coordinate of the midpoint of $(1, 1)$ and $(5, 5)$? [2]

Answer: 3

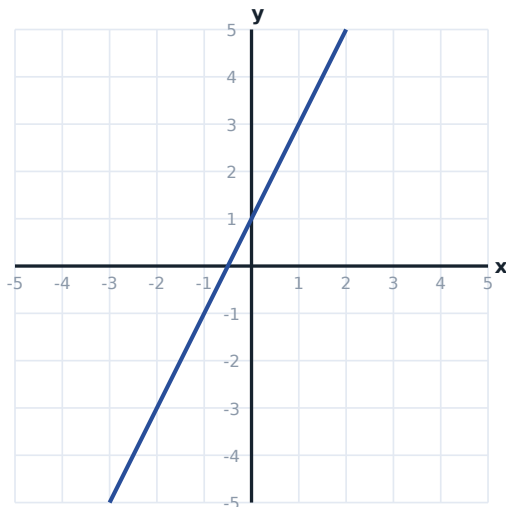
$(1 + 5) \div 2 = 3$.

- 8 For the line $y = 3x - 1$, what is y when $x = 4$? [2]

Answer: 11

$3(4) - 1 = 11$.

- 9 This is the line $y = 2x + 1$. Where does it cross the y-axis? Give the y-coordinate. [2]



Answer: 1

Put $x = 0$: the constant is the y-intercept.

- 10 In $y = 3x + 2$, what does the 3 tell you? [2]

- ☐ The y-intercept
- ☐ The gradient
- ☐ The value of x
- ☐ Nothing

Answer: The gradient

y rises 3 for each 1 across.

- 11 What does the line $y = 4$ look like? [2]

- ☐ Vertical
- ☐ Horizontal, 4 above the x-axis
- ☐ Diagonal
- ☐ Through the origin

Answer: Horizontal, 4 above the x-axis

Every point has $y = 4$.

- 12 Do $y = 2x + 1$ and $y = 2x + 5$ ever cross? [2]

- ☐ Yes
- ☐ No

Answer: No

Same gradient, so parallel.

- 13 The line $y = 2x + 3$ passes through $(4, k)$. What is k ? [2]

Answer: 11

$2(4) + 3 = 11$.

- 14 Where does $y = 2x - 6$ cross the x-axis? Give the x-coordinate. [3]

Answer: 3

Put $y = 0$: $2x = 6$, so $x = 3$.

- 15 What does a flat section of a distance–time graph mean? [2]

- ☐ Moving fast
- ☐ Moving slowly
- ☐ Not moving
- ☐ Going back

Answer: Not moving

Time passes, distance does not change.

- 16 What does the gradient of a distance–time graph represent? [2]

- ☐ Distance
- ☐ Time
- ☐ Speed
- ☐ The stop

Answer: Speed

Distance divided by time.

- 17 Why does a conversion graph pass through the origin? [2]

- ☐ It always does
- ☐ Zero of one unit is zero of the other
- ☐ To look tidy
- ☐ It does not

Answer: Zero of one unit is zero of the other

Zero miles is zero kilometres.

- 18 A car travels 240 km in 3 hours. What is its average speed, in km/h? [2]

Answer: 80

$240 \div 3 = 80$.

- 19** A conversion graph shows 5 miles = 8 km. How many km is 20 miles? [3]

Answer: 32

$20 \div 5 = 4$, and $8 \times 4 = 32$.

- 20** A taxi charges $y = 2x + 5$ dollars for x km. What is the fare for 6 km, in dollars? [2]

Answer: 17

$2(6) + 5 = 17$.

- 21** In that taxi rule, what does the 5 represent, in dollars? [2]

Answer: 5

The fixed charge before travelling — the y-intercept.

Total: 41 marks