

Revision Sheet

IGCSE Mathematics · Unit 2 Algebra and graphs

21 vocabulary items · 31 marks of exam questions (6 questions)

Part 1 · Vocabulary review (21 items). The terms this unit is examined on most. Mark it yourself from the answer key.

Section A · Chinese to English

Write the English word.

1.

[1]
2.

[1]
3.

[1]
4.

[1]
5.

[1]
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[1]
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[1]
8.

[1]
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[1]
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[1]
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[1]
12.

[1]
13.

[1]
14.

[1]
15.

[1]
16.

[1]
17.

[1]

18.

[1]
19.

[1]
20.

[1]
21.

[1]

Part 2 · Exam questions (31 marks, 6 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

22 $X = \frac{1}{3}w^2p$

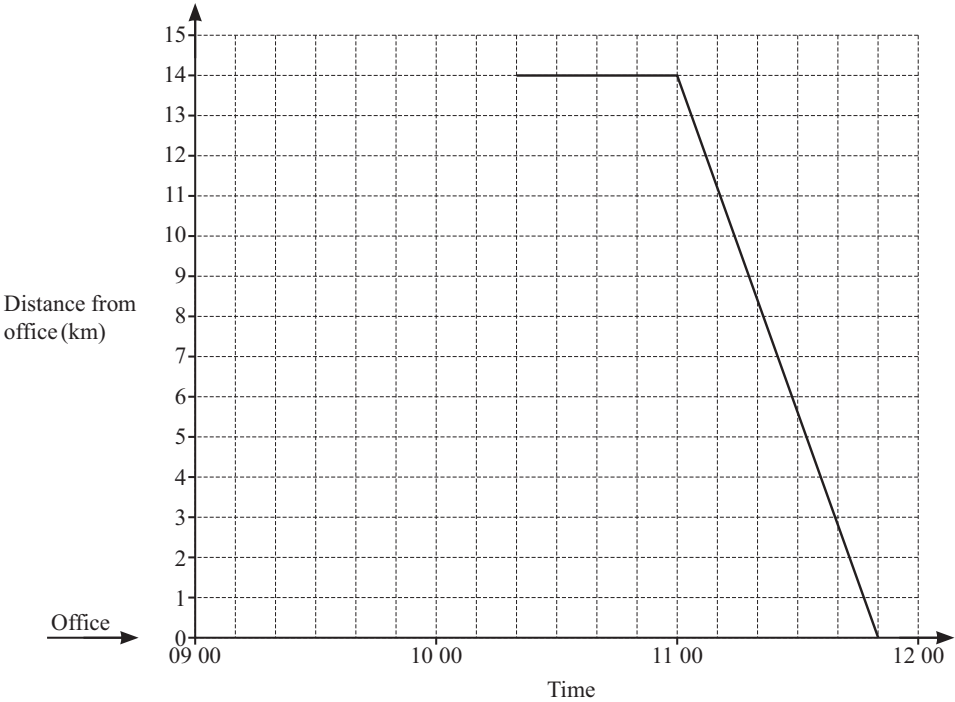
(a) Find the value of X when $w = 5$ and $p = 6$.

$X =$ [2]

(b) Make p the subject of the formula.

$p =$ [2]

23 Ky cycles from his office to a meeting and back again.
The travel graph shows his time at the meeting and his journey back.



- (a) How far is the meeting from his office?
..... km [1]
- (b) How long is Ky at the meeting for?
..... min [1]
- (c) Write down the time Ky arrives back at his office after the meeting.
..... [1]
- (d) Ky cycles from his office to the meeting at a constant speed of 21 km/h.
Complete the travel graph.

24 (a) Simplify.

$6a + 4b - a - 5b$

..... [2]

(b) Factorise.

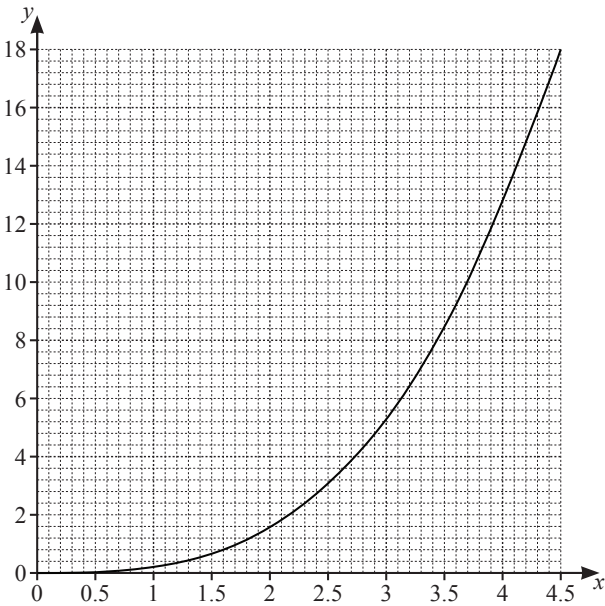
(i) $6x + 15y$

..... [1]

(ii) $x^2y - 5xy$

..... [2]

25



The graph of $y = f(x)$ is drawn on the grid.

(a) Draw the tangent to the graph at the point $x = 3$. [1]

(b) Use your tangent to find an estimate for the gradient of the curve at the point $x = 3$.

..... [2]

26 Solve the simultaneous equations.
You must show all your working.

$$\begin{aligned} 4y + 3x &= 13 \\ y &= x^2 - 18 \end{aligned}$$

$x = \dots\dots\dots y = \dots\dots\dots$
or $x = \dots\dots\dots y = \dots\dots\dots$ [5]

27 (a) The point $(-1, 6)$ lies on a curve.

This curve has the derived function $\frac{dy}{dx} = -4x^3 - 9x^2 + 5$.

Show that $(-1, 6)$ is a stationary point of the curve.

[2]

(b) A different curve has equation $y = 2x^3 - 6x + 8$.

(i) Calculate the gradient of the tangent to this curve at the point $(-2, 4)$.

$\dots\dots\dots$ [3]

(ii) Find the x -coordinates of the stationary points of this curve.

$x = \dots\dots\dots$ and $x = \dots\dots\dots$ [2]