GCSE MATHEMATICS
AQA I Edexcel I OCRIWJEC

## $y=m x+c$

Please write clearly in block capitals

Forename:
Surname:

## Materials

For this paper you must have:

- mathematical instruments

You can use a calculator.

## Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.


## Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.


## Advice

- In all calculations, show clearly how you work out your answer.
$1 \quad$ Find the equations of the three lines $f, g$ and $h$ shown on the graph below.

$\qquad$
$\qquad$
$\qquad$
$f=$
$g=$
$h=$
$\qquad$
$\qquad$
$\qquad$

Turn over for next question

2(a) Find the equation of the line $A B$ where:

$$
A=(5,10) \quad B=(11,22)
$$

Give your answer in the form $y=m x+c$.
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

2(b) Find the equation of the line $C D$ where,

$$
C=(-2,-7) D=(-14,-11)
$$

Give your answer in the form $y=m x+c$.
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$


4 From the equations below, find two pairs of equations which have the same gradient.

| A | $y=2 x+3$ |
| :---: | :---: |
| B | $y=4-2 x$ |
| C | $-2 x-y=4$ |


| D | $-2 x+y=5$ |
| :---: | :---: |
| E | $2 x y=5$ |
| F | $\frac{x}{y}=3$ |

$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
and
and

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5 From the equations below, find four pairs of equations which have the same gradient.

| A | $y=7 x+4$ |
| :---: | :---: |
| B | $(x+1)^{2}-x^{2}=4 y$ |
| C | $2(3 x+4)-y-(1-x)=0$ |
| D | $2 y=3(2 x-4)$ |


| E | $\frac{y}{x}=3$ |
| :---: | :---: |
| F | $y-2(x+3)=-(6+x)$ |
| G | $6 y-3 x+2=0$ |
| H | $x=y$ |

[4 marks]
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6 The graph below is a distance time graph for a car, over 10 seconds, during a race


6(a) Find the equation of the straight line graph.
[2 marks]
$\qquad$
$\qquad$
$\qquad$
$\qquad$

6(b) What does the value of $m$ represent in terms of this car.
Explain your answer.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

7(a) Two lines EF and GH are parallel.

$$
\begin{gathered}
\mathrm{EF}: y=5 x-2 . \\
G=(5, a) \\
H=(2 a, 8)
\end{gathered}
$$

Find the value of $a$.
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

7(b) Hence or otherwise, write down the equation of GH.
$\qquad$
$\qquad$
Answer $\qquad$


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