



**Cambridge  
Checkpoint**

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
Cambridge Checkpoint

CANDIDATE  
NAME

CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**MATHEMATICS**

**1112/01**

Paper 1

**April 2012**

**60 minutes**

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments  
Tracing paper



**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

**DO NOT WRITE IN ANY BARCODES.**

Answer **all** questions.

**NO CALCULATOR ALLOWED.**

You should show all your working in the booklet.

The number of marks is given in brackets [ ] at the end of each question or part question.

The total number of marks for this paper is 50.

**For Examiner's Use**

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<b>21</b>	
<b>Total</b>	

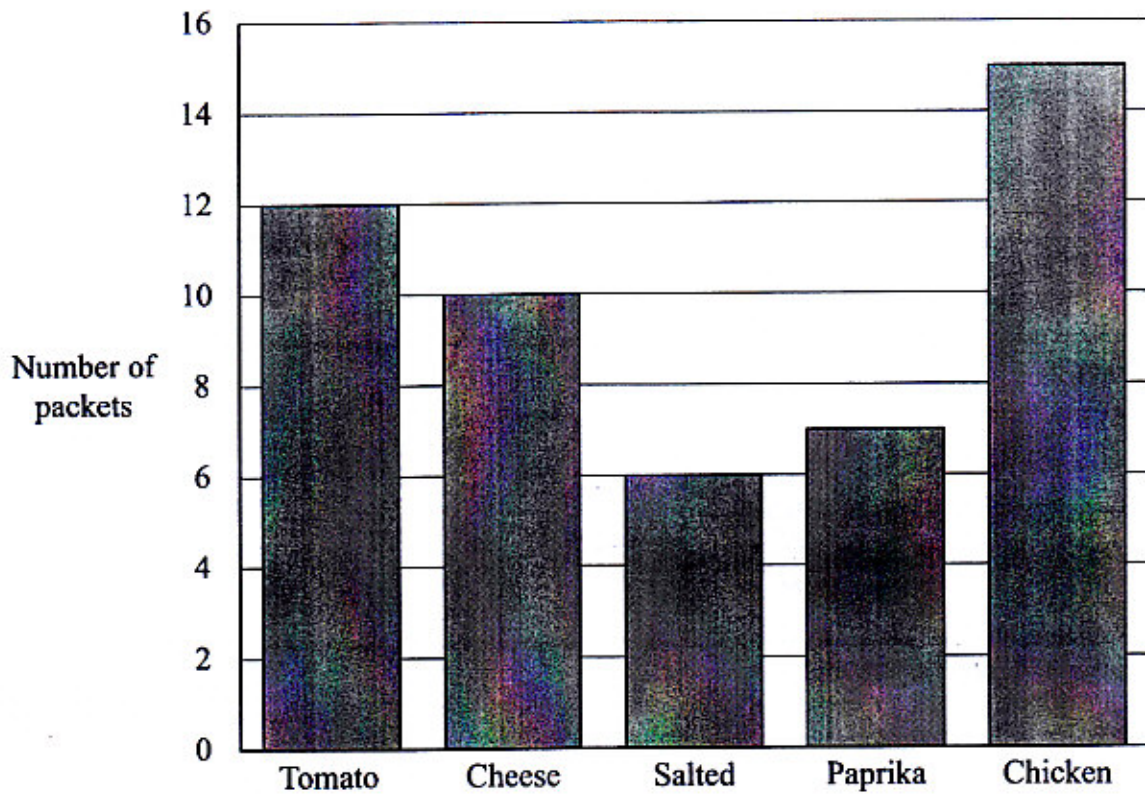
This document consists of 13 printed pages and 3 blank pages.





DO NOT WRITE IN THIS MARGIN

1 This graph shows the number of packets of crisps that were sold in one week.



(a) How many more packets of Cheese were sold than packets of Paprika crisps?

3 ..... [1]

(b) Which flavour was twice as popular as Salted?

Tomato ..... [1]



- 2 (a) At 10pm the temperature is  $2^{\circ}\text{C}$ .  
At midnight the temperature has fallen by  $3^{\circ}\text{C}$ .

What is the temperature at midnight?

$$2 - 3 = -1$$

-1

.....  $^{\circ}\text{C}$  [1]

- (b) The temperature in a freezer is  $-15^{\circ}\text{C}$ .  
The temperature in the freezer increases by  $3^{\circ}\text{C}$ .

Work out the temperature in the freezer now.

$$-15 + 3 = -12$$

-12

.....  $^{\circ}\text{C}$  [1]

- 3 A recipe lists the ingredients needed to make 24 cakes.

100 g	Flour
50 g	Margarine
50 g	Sugar
1	Egg

- (a) Joanna makes 48 cakes.

Work out how much flour she needs.

$$\frac{48}{24} \times 100$$

200

..... g [1]

- (b) Luca has 7 eggs and plenty of the other ingredients.

Work out the maximum number of cakes he can make.

$$7 \times 24 =$$

168

..... cakes [1]





- 4 Choose one of these words to complete each sentence.

Certain

Likely

Unlikely

Impossible

It is Impossible that the day after Wednesday is Sunday.

My teacher chooses a number between one and one hundred.

It is Unlikely that I will guess the number correctly. [1]

- 5 A package is delivered 3 hours 25 minutes after it is collected.  
It is collected at 1539.

At what time is the package delivered?

$$\begin{array}{r} 15.39 \\ 3.25 \\ \hline 18.64 \end{array} +$$

19.04

[1]

- 6 Here is a formula.

$$a = 2b - c$$

Find the value of  $a$  when

(a)  $b = 11$  and  $c = 3$

$$2(11) - 3$$

19

[1]

(b)  $b = 12$  and  $c = -4$

$$2(12) - (-4)$$

28

[1]



7 Tido is shopping at a furniture store.

- (a) He has \$360 to spend.  
He buys a table for \$204.99

Work out how much money he has left after buying the table.

$$\begin{array}{r}
 360.00 \\
 204.99 \\
 \hline
 155.01
 \end{array}$$

\$ 155.01 [1]

- (b) Work out the cost of 4 mirrors at \$35.99 each.

$$\begin{array}{r}
 35.99 \\
 \quad 4 \\
 \hline
 143.96
 \end{array}
 \times$$

\$ 143.96 [1]

- (c) A bed costs \$560.  
The price is reduced by 25% in a sale.

Work out the **sale price** of the bed.

$$\begin{aligned}
 \text{Reduce} &= \frac{25}{100} \times 560 \\
 &= 140
 \end{aligned}$$

\$ 420 [2]

$$\begin{aligned}
 \text{Sale} &= \text{Original Cost} - \text{Reduce} \\
 &= 560 - 140
 \end{aligned}$$

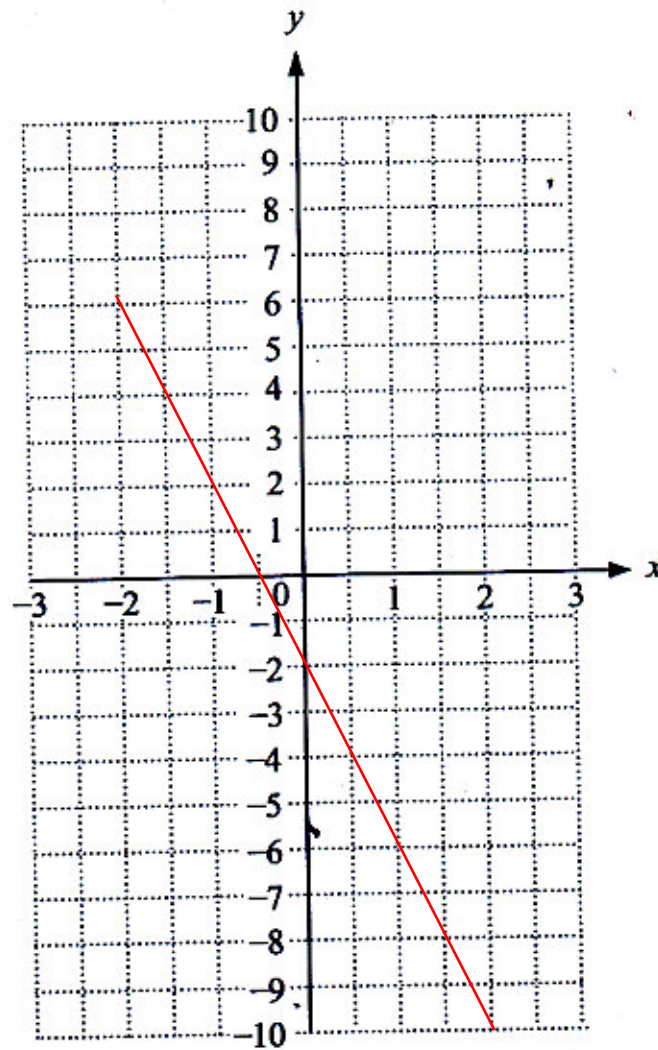


- 8 (a) Complete this table of values for the graph  $y = -4x - 2$

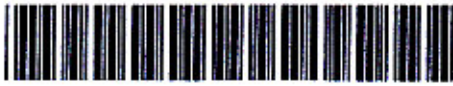
$x$	-2	-1	0	1	2
$y$	6	2	-2	-6	-10

[1]

- (b) Use your table of values to draw the graph of  $y = -4x - 2$



[1]



9 Complete the following statements.

(a)  $0.75\text{m} \times 100 = \overset{75}{\dots\dots\dots} \text{cm}$  [1]

(b)  $1.357\text{kg} \times 1000 = \overset{1357}{\dots\dots\dots} \text{g}$  [1]

(c)  $4000\text{kg} \div 1000 = \overset{4}{\dots\dots\dots} \text{tonnes}$  [1]

(d)  $2.5\text{m}^2 \times 10000 = \overset{25000}{\dots\dots\dots} \text{cm}^2$  [1]

10 Complete this table of equivalent fractions, decimals and percentages.

The first row is done for you.

Fraction	Decimal	Percentage
$\frac{3}{8}$	0.375	37.5%
$\frac{43}{100}$	0.43	43%
$\frac{9}{100}$	0.09	9%

[2]

11 Work out

(a)  $2.59 \times 0.4$

$$\begin{array}{r} 259 \\ \underline{4} \times \\ 1136 \end{array}$$

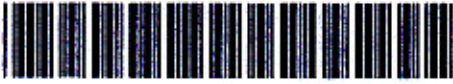
$\overset{1.136}{\dots\dots\dots}$  [1]

(b)  $44.4 \div 1.2$

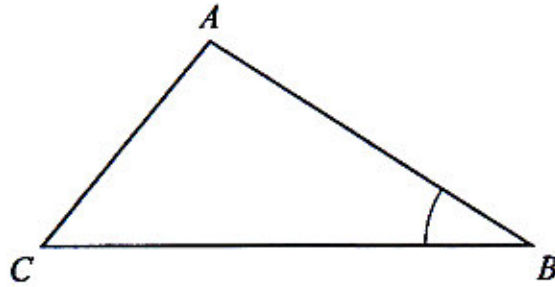
$$\begin{array}{r} 37 \\ 12 \overline{)444} \\ \underline{36} \\ 84 \\ \underline{84} \\ 0 \end{array}$$

$\overset{37}{\dots\dots\dots}$  [1]





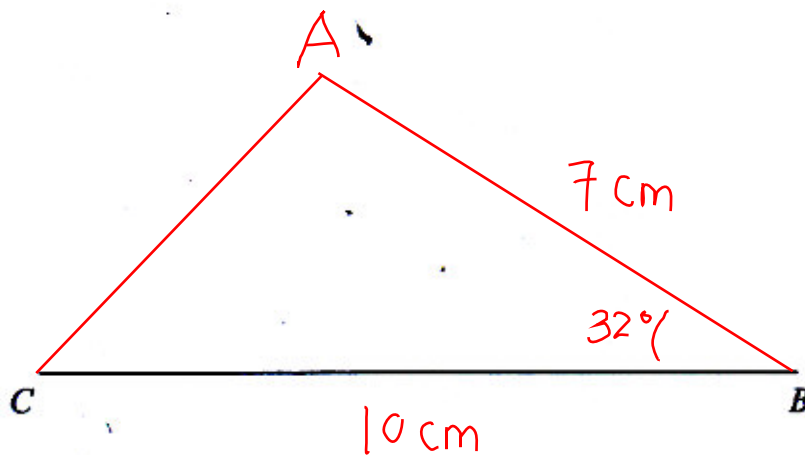
- 12 The sketch shows a triangle  $ABC$ .



$AB = 7$  cm,  $CB = 10$  cm and angle  $ABC = 32^\circ$ .

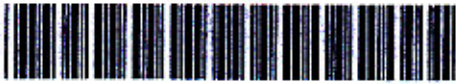
Draw triangle  $ABC$  accurately.

The line  $CB$  has been drawn accurately for you.

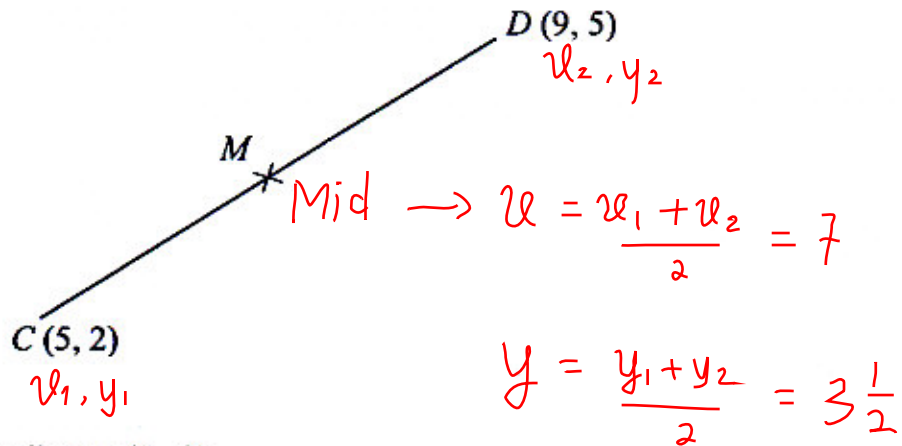


[2]





13 Chaz draws a line  $CD$ .



Point  $C$  has the co-ordinates  $(5, 2)$ .  
 Point  $D$  has the co-ordinates  $(9, 5)$ .  
 Point  $M$  is the midpoint of the line  $CD$ .

Work out the co-ordinates of the point  $M$ .

$M = ( \underline{7} , \underline{3\frac{1}{2}} )$  [2]

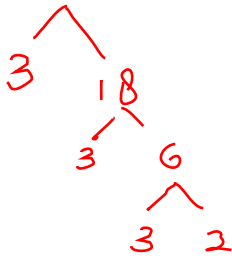
14 (a) Write down all the factors of 18

$1 \times 18$   
 $2 \times 9$   
 $3 \times 6$

$\underline{1, 2, 3, 6, 9, 18}$

[1]

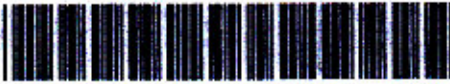
(b) Write 54 as a product of its prime factors.



$\underline{2 \times 3^3}$

[2]



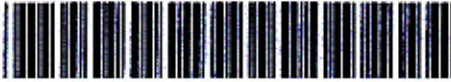


15 Use the information that

$$22.1 \times 32.5 = 718.25$$

to write down the answers to the following questions.

- (a)  $22.1 \times 325 =$  7182.5 [1]
- (b)  $718.25 \div 22.1 =$  32.5 [1]
- (c)  $2.21 \times 3.25 =$  7.1825 [1]
- (d)  $718.25 \div 3.25 =$  221 [1]
- (e)  $2210 \times 325 =$  718250 [1]



16 (a) Write the ratio 8 : 12 in its simplest form.

$8 : 12 \div 4$

.....  $2$  : .....  $3$  ..... [1]

(b) On a school trip the ratio of adults to children is 1 : 6  
There are 30 children on the trip.

Work out the number of adults.

Adult : Children = 1 : 6

$x : 30 = 1 : 6$

$x = \frac{30}{6}$  .....  $5$  adults [1]

17 Work out the following.  
Give your answers as fractions in their simplest form.

(a)  $\frac{5}{8} \times \frac{4}{15}$

$\frac{1}{6}$

..... [2]

(b)  $1\frac{2}{3} + 2\frac{2}{9}$

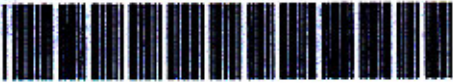
$\frac{5}{3} + \frac{20}{9}$

$\frac{51}{31} \times \frac{20}{9}$

$\frac{3}{4}$

..... [2]





18 Solve the simultaneous equations.

$$\begin{array}{r} 7x + 2y = 31 \\ 3x + 2y = 19 \\ \hline \end{array}$$

$$4x = 12$$

$$x = 3$$

$$\rightarrow 3(3) + 2y = 19$$

$$9 + 2y = 19$$

$$2y = 10$$

$$y = 5$$

$$x = \underline{\hspace{1.5cm}} 3 \hspace{1.5cm}$$

$$y = \underline{\hspace{1.5cm}} 5 \hspace{1.5cm} [3]$$

19 (a) Work out

$$4.2 + 5 \times 1.1$$

$$4.2 + 5.5$$

$$\underline{\hspace{1.5cm}} 9.7 \hspace{1.5cm} [1]$$

(b) Put one pair of brackets in this calculation to make it correct.

$$18 \div (6 + 3) \times 7 = 14 \hspace{1.5cm} [1]$$



20 Given that  $x$  is a whole number, work out the values of  $x$  which satisfy this inequality.

$$\frac{4 < 2x \leq 8}{2} \div 2$$

$$2 < x \leq 4$$

Put a ring around the correct answer.

3

2, 3

2, 3, 4

3, 4

5, 6, 7, 8

[1]

21 A spinner contains five sections numbered 1 to 5. It is **not** a fair spinner.

Josef makes a table to show the probabilities of the spinner landing on each of the numbers 1 to 5.

Number	1	2	3	4	5
Probability	0.4	0.1	0.2	0.1	0.2

the sum = 1

The probability that the spinner lands on 2 is **half** the probability that it lands on 5.

Complete the table to show all of the probabilities.

[2]

