



**Cambridge
Checkpoint**

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge Checkpoint

CANDIDATE
NAME

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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

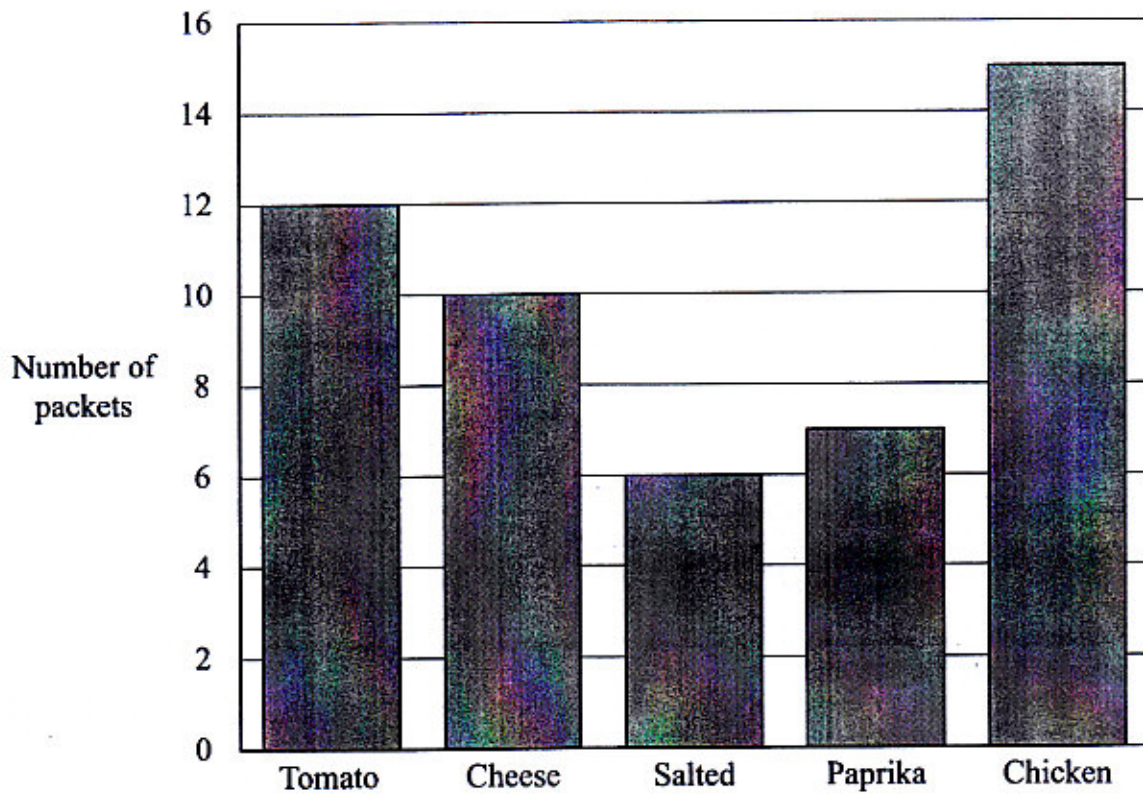
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This document consists of **13** printed pages and **3** blank pages.





- 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°C .
At midnight the temperature has fallen by 3°C .

What is the temperature at midnight?

$$2 - 3 = -1$$

-1

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

- (b) The temperature in a freezer is -15°C .
The temperature in the freezer increases by 3°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.

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

\$ 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]

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

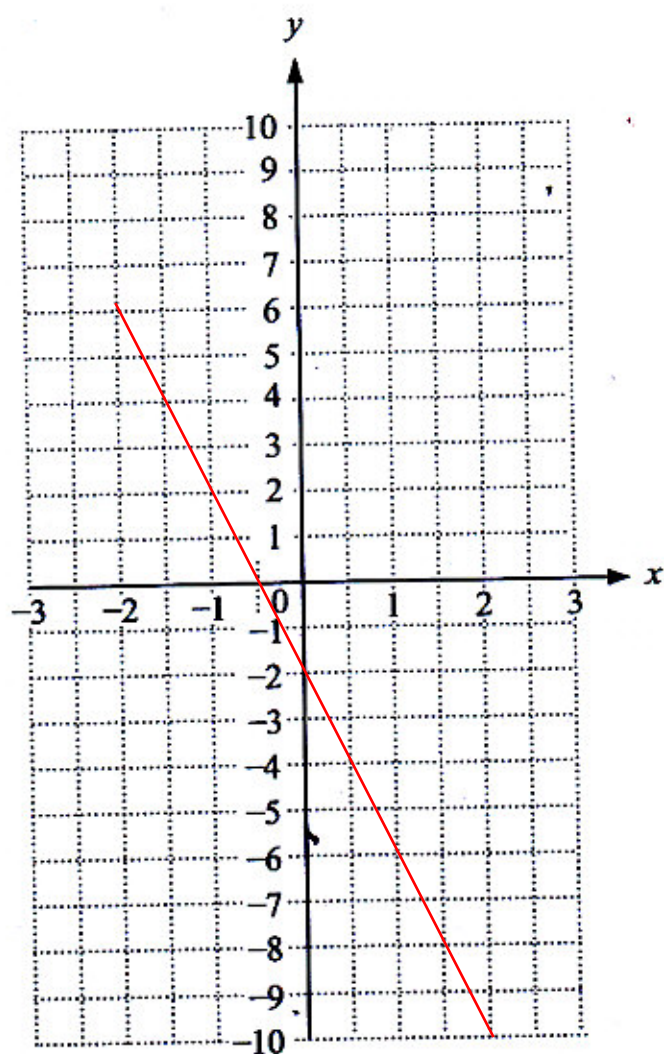


- 8 (a) Complete this table of values for the graph $y = -4x - 2$

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 %

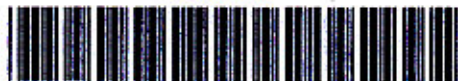
[2]

11 Work out

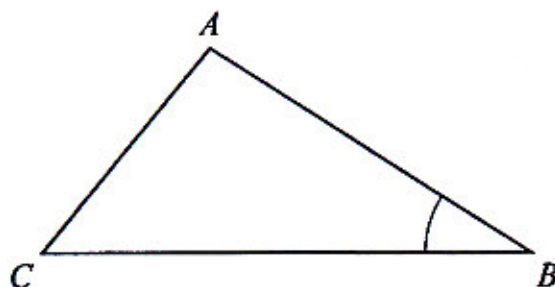
(a) 2.59×0.4 $\begin{array}{r} 259 \\ 4 \\ \hline 1136 \end{array} \times$ $\overset{1.136}{\dots\dots\dots}$ [1]

(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]





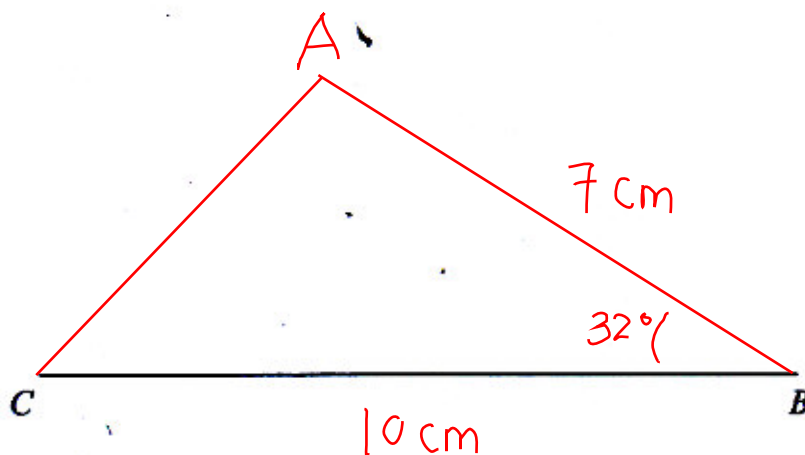
- 12 The sketch shows a triangle ABC .



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

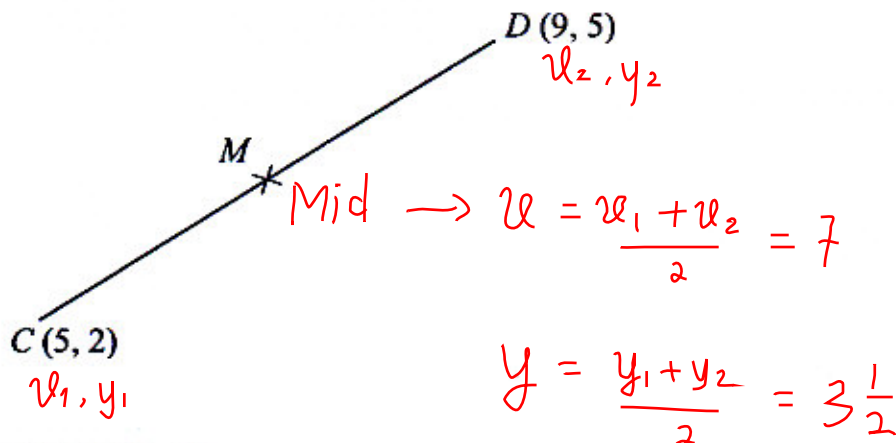
Draw triangle ABC accurately.

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 .

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

- 14 (a) Write down all the factors of 18

$$\begin{aligned} 1 \times 18 \\ 2 \times 9 \\ 3 \times 6 \end{aligned}$$

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

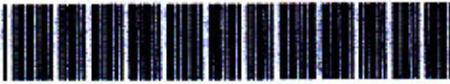
[1]

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

$$\begin{array}{c} 3 \swarrow \searrow 18 \\ 3 \swarrow \searrow 6 \\ 3 \swarrow \searrow 2 \end{array}$$

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

[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) $718.25 \div 3.25 =$

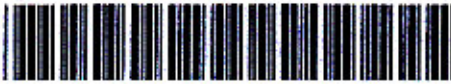
221

[1]

(e) $2210 \times 325 =$

718250

[1]



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

$$\underline{\hspace{2cm}} \div 4$$

$$\underline{\hspace{2cm}} 2 \hspace{1cm} : \hspace{1cm} \underline{\hspace{2cm}} 3 \hspace{1cm} [1]$$

- (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.

$$\text{Adult : Children} = 1 : 6$$

$$x : 30 = 1 : 6$$

$$x = \frac{30}{6} \hspace{1cm} \underline{\hspace{2cm}} 5 \hspace{1cm} \text{adults} \hspace{1cm} [1]$$

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

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

$$\underline{\hspace{2cm}} \frac{1}{6} \hspace{1cm} [2]$$

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

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

$$\frac{51}{31} \times \frac{20}{9} = \frac{1020}{279}$$

$$\underline{\hspace{2cm}} \frac{3}{4} \hspace{1cm} [2]$$





18 Solve the simultaneous equations.

$$7x + 2y = 31$$

$$3x + 2y = 19$$

$$4x = 12$$

$$x = 3$$

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

$$9 + 2y = 19$$

$$2y = 10$$

$$y = 5$$

$$x = 3$$

$$y = 5$$

[3]

19 (a) Work out

$$4.2 + 5 \times 1.1$$

$$4.2 + 5.5$$

$$9.7$$

[1]

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

$$18 \div (6 + 3) \times 7 = 14$$

[1]



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

$$\begin{array}{c} 4 < 2x \leq 8 \\ \hline 2 < x \leq 4 \end{array} \div 2$$

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]

