UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge Checkpoint

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

MATHEMATICS

Paper 2

1112/02

May/June 2010

1 hour

Candidates answer on the Question Paper

Additional Materials: Calculator
Geometric Instruments

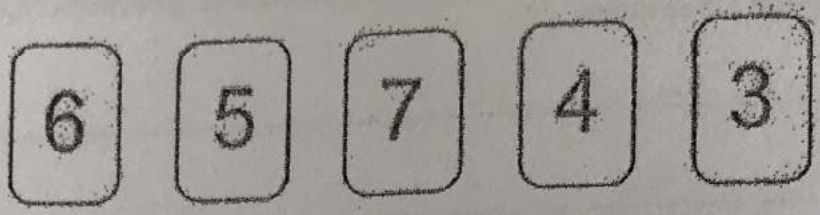
READ THESE INSTRUCTIONS FIRST

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.

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.

1 Bakari has five number cards.



Use only these cards to complete each sentence.

(a) $\square\square < 35$ [1]

(b) $\square\square > 75$ [1]

(c) $36 < \square\square < 38$ [1]

(d) $36 \neq \square\square$ [1]

2 Jaffri drives to work on Monday.
His journey to work takes 49 minutes.
Because of road works, his journey home takes 77 minutes.

(a) Work out the difference between his journey times.

..... min [1]

(b) Work out his total journey time on Monday.
Convert your answer to hours and minutes.

..... hours ..... minutes [2]

(c) On Tuesday he leaves work at 4.15 pm.

(i) Write this time using the 24-hour clock.

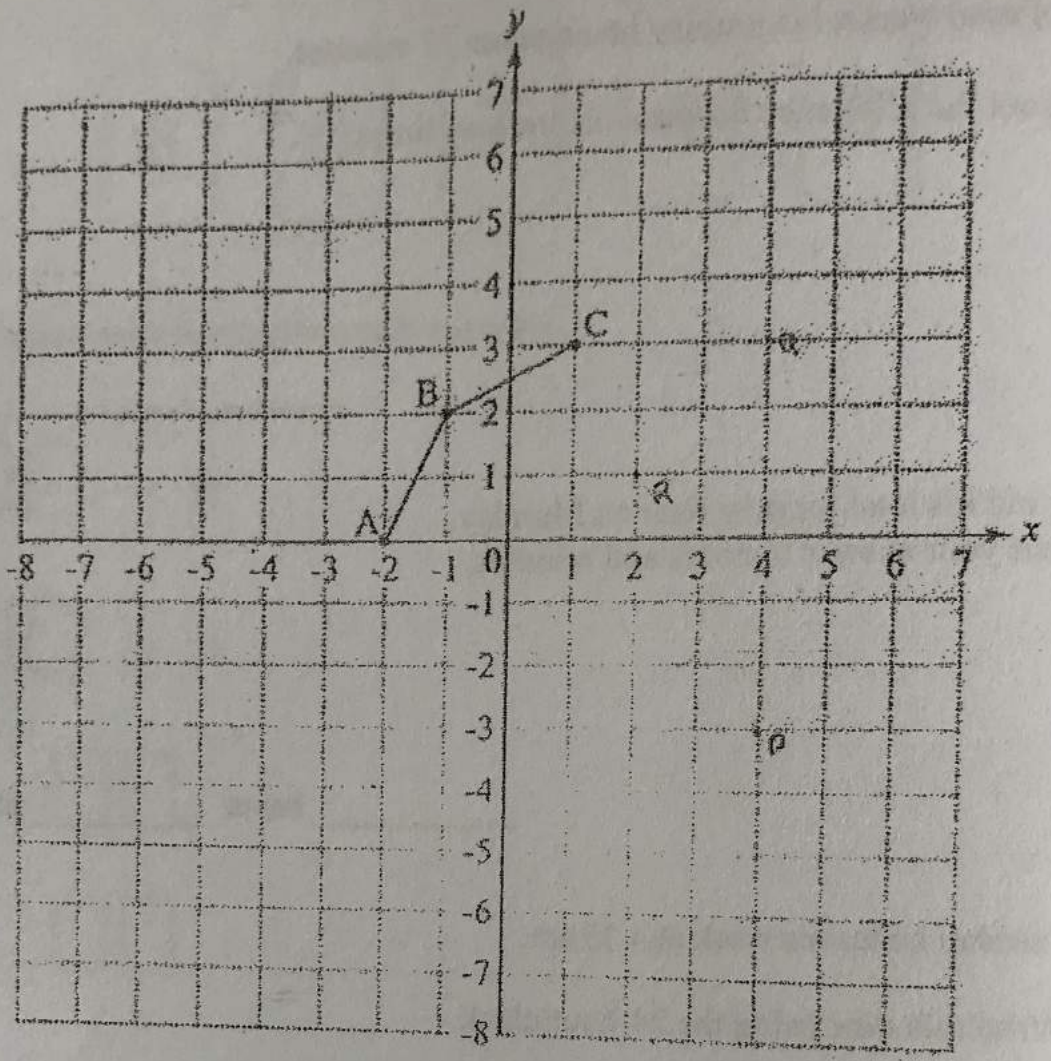
..... [1]

(ii) His journey home takes 79 minutes.

Work out the time when he arrives home.

..... [1]

3



(a) Write down the co-ordinates of point A.

(..... , ...) [1]

(b) Mark the point P (4, -3) on the grid. [1]

(c) Point C is reflected in the x-axis.
Mark the image of C on the grid. Label this point Q. [1]

(d) Point B is rotated 90° clockwise about (0, 0).
Mark the image of B on the grid. Label this point R. [1]

(e) The points A, B and C are joined to form a triangle.
Put a ring around the correct name given to this triangle.

equilateral isosceles rhombus right-angled scalene

[1]

4 A letter from the word PERCENTAGE is chosen at random.
Write down the probability of

(a) choosing a letter T,

..... [1]

(b) choosing either a letter R or a letter C,

..... [1]

(c) not choosing a letter E,

..... [1]

(d) choosing a letter S.

..... [1]

5 Complete the following statements.

(a) 476 mm = ... m [1]

(b) 0.54 litres = ... millilitres [1]

(c) 34 g = ... kg [1]

(d) 5.8cm = ... mm [1]

(e) 3.5 mm^2 = ... cm^2 [1]

(f) 5629 kg = ... tonnes [1]

6 Sanjit is mixing sand and cement.

The ratio sand : cement is 5:2.

(a) Sanjit has 15 kg of sand.

(i) How much cement does he need?

..... kg [1]

(ii) How much cement does Sanjit need to make 35 kg of the mixture?

..... kg [1]

(iii) Sanjit has 3 kg of cement.

How much sand does he need to mix with 3 kg of cement?

..... kg [2]

(b) Sand costs \$4.50 for 3 kg.

How much does 10 kg of sand cost?

\$ ..... [1]

7 Solve the following equations.

(a) $3a = 18$

$a =$ ..... [1]

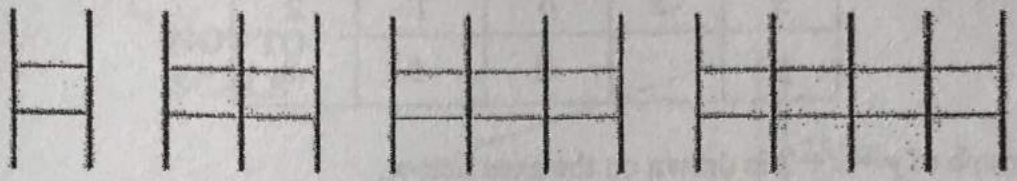
(b) $2b - 4 = 10$

$b =$ ..... [2]

(c) $3(c + 2) = 18$

$c =$ ..... [3]

8 Imran makes patterns using long sticks and short sticks.
The first four patterns are shown below.



He puts some of his results into a chart.

Number of long sticks (j)	2	3	4	5	6	7
Number of short sticks (s)	2	4	6	8		

(a) Complete the table above. [1]

(b) One pattern uses 15 long sticks.
How many short sticks does it use?

..... [1]

(c) Put a ring around the rule for this pattern.

$s = j - 2$ $s = j + 1$ $s = j + 3$ $s = 2j + 3$ $s = 2j - 2$

[1]

(d) Another fence uses the rule $s = 2j - 4$.

A length of this fencing uses 150 short sticks.
How many long sticks does it use?

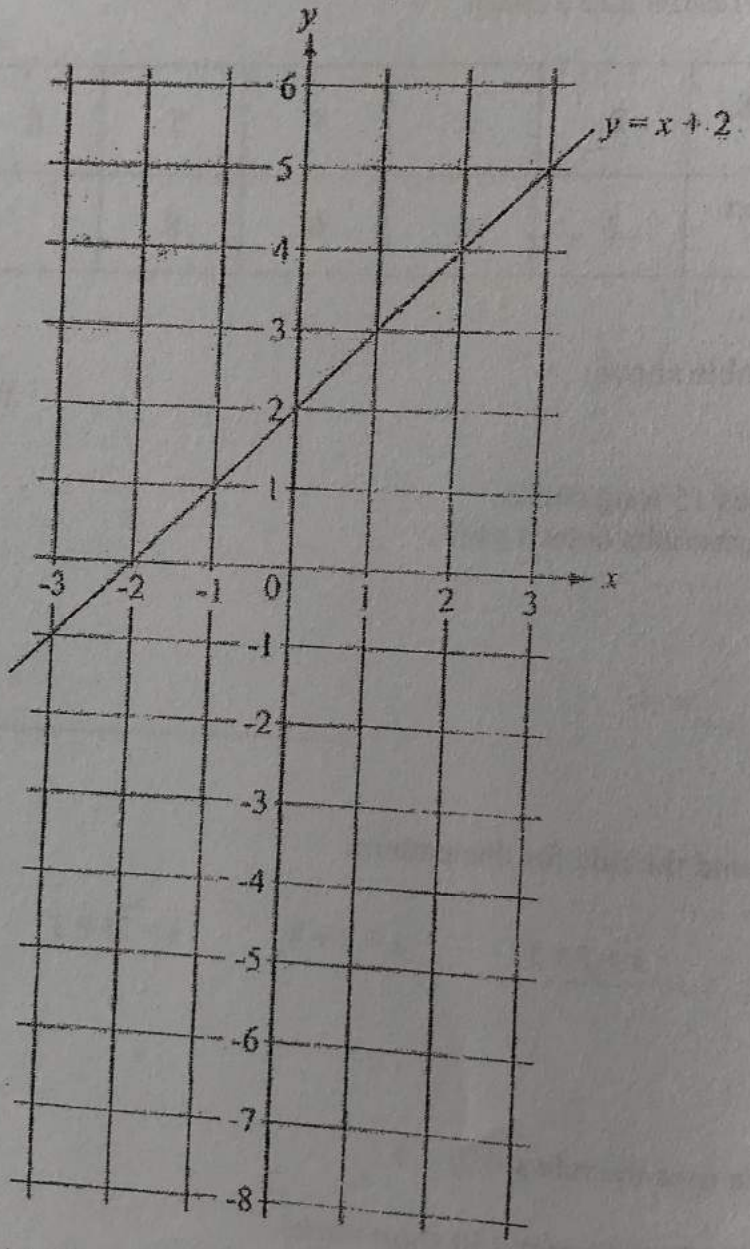
..... [1]

9 (a) Complete this table of values for the graph of $y = -3x - 2$.

x	-2	0	1	2
y		-2	-5	-8

[1]

(b) The graph of $y = x + 2$ is drawn on the axes below.
Use the table of values above to plot the graph of $y = -3x - 2$.



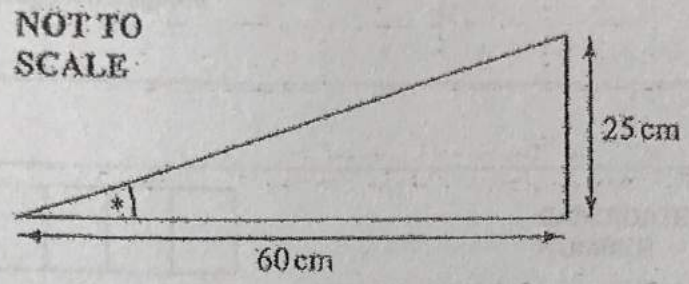
(c) Use your graph to solve these simultaneous equations. [2]

$y = x + 2$ and $y = -3x - 2$

$x =$ ..... [1]

$y =$ ..... [1]

10 The sketch shows the end view of a display case. The case is 60 cm from front to back and 25 cm high at the back.



(a) Use Pythagoras' Rule to find the length of the sloping edge.

..... cm [3]

(b) Find the angle marked * on the diagram above.

..... ° [3]

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