Centre Number	Candidate Number	Name

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge Checkpoint

MATHEMATICS **1112/01**

Paper 1

November 2006

1 hour

Candidates answer on the Question Paper.
Additional Materials: Protractor
Ruler

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 pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
You are not allowed to use a calculator.

Answer all questions.
You should show all your working in this booklet.

At the end of the examination, fasten all your work securely together.
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 51.

IB06 11_1112_01/FP

1 Look at this section of a number grid.

42	43	44	45
52	53	54	55
62	63	64	65
72	73	74	75

Using only the numbers in the grid, write down

(a) a square number, ... [1]

(b) a prime number, ... [1]

(c) a number which is a multiple of both 3 and 8, ... [1]

(d) two numbers which are both factors of 126. ..... and ..... [2]

2 Complete the following statements.

(a) 1638 grams = ... kilograms [1]

(b) 7.3 centilitres = ... millilitres [1]

(c) 5.38 metres = ... centimetres [1]

(d) 2840 millilitres = ... litres [1]

(e) $\frac{1}{4}$ square metre = ... square centimetres [1]

3 (a) Write these numbers in order of size.

Start with the smallest number.

0.78 0.8 0.09 0.87 0.708

.... [2

smallest largest

(b) Using the information that

$58 \times 234 = 13572$,

write down the value of

(i) 5.8×234,

..... [1]

(ii) 5.8×2.34,

..... [1]

(iii) $135.72 \div 5.8$.

..... [1]

4 (a) A ship leaves port A at 2030 on Monday.

(i) Write this time using the 12-hour clock.

..... [1]

(ii) The ship arrives at port B at 1145 on Tuesday morning.
Work out the time taken for this journey.

..... hours ..... minutes [1]

(iii) The ship remains at port B for $8\frac{1}{2}$ hours.
At what time does the ship leave port B?

..... [1]

(b) Another ship sails 105 km in $7\frac{1}{2}$ hours.
Work out the average speed of this ship.

..... km/h [2]

5 Reshma asks nine friends how many pencils they have in their pencil cases.
Here are her results.

7	4	2	8	5	1	9	8	10

(a) Write down

(i) the range,

..... [1]

(ii) the mode.

..... [1]

(b) Work out

(i) the median,

..... [1]

(ii) the mean.

..... [2]

[Turn over

6 (a) A shop gives a discount of 20% on toys.

(i) Write 20% as a fraction in its simplest form.

..... [1]

(ii) Work out the discount given on a toy priced at $8.

$ ..... [2]

(b) In another shop a book is priced at $12.00.
In a sale it is reduced to $9.
Work out the percentage reduction in this shop.

..... % [2]

7 Purple paint is made by mixing blue and red paint in the ratio 2:3.

(a) What fraction of the purple paint is made up of red paint?

..... [1]

(b) What percentage of the purple paint is made up of blue paint?

..... % [2]

(c) How many tins of red paint are mixed with 4 tins of blue paint to make this shade of purple paint?

..... [1]

(d) How much blue paint is used to make 500 millilitres of purple paint?

..... ml [1]

6 (a) A shop gives a discount of 20% on toys.

(i) Write 20% as a fraction in its simplest form.

..... [1]

(ii) Work out the discount given on a toy priced at $8.

$ ..... [2]

(b) In another shop a book is priced at $12.00.
In a sale it is reduced to $9.
Work out the percentage reduction in this shop.

..... % [2]

7 Purple paint is made by mixing blue and red paint in the ratio 2:3.

(a) What fraction of the purple paint is made up of red paint?

..... [1]

(b) What percentage of the purple paint is made up of blue paint?

..... % [2]

(c) How many tins of red paint are mixed with 4 tins of blue paint to make this shade of purple paint?

..... [1]

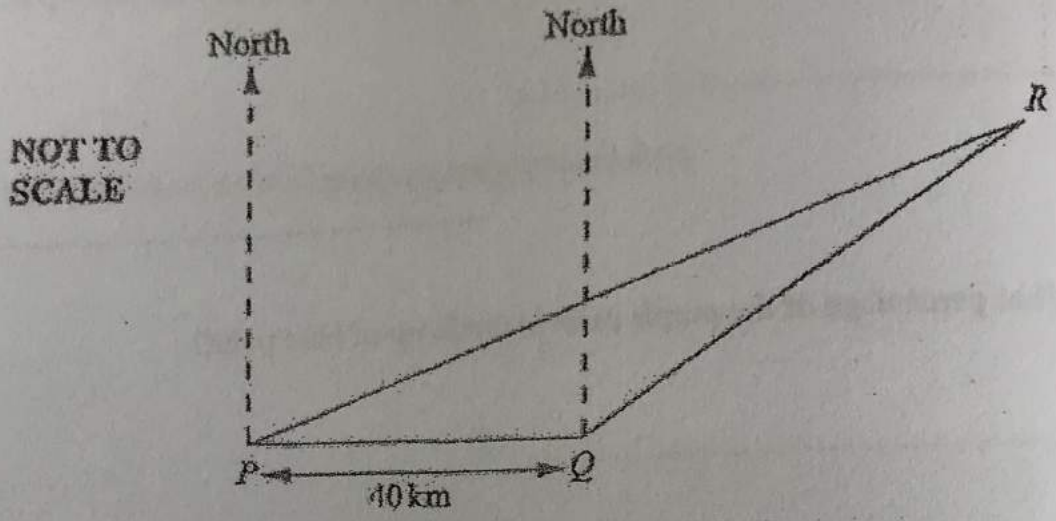
(d) How much blue paint is used to make 500 millilitres of purple paint?

..... ml [1]

[Turn over

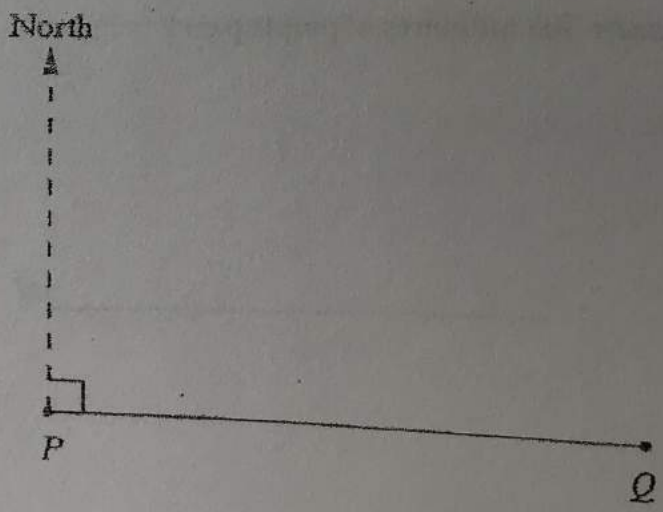
10 The diagram shows the journey of a ship.

It leaves port, P, and travels 40 km due East to a point Q.



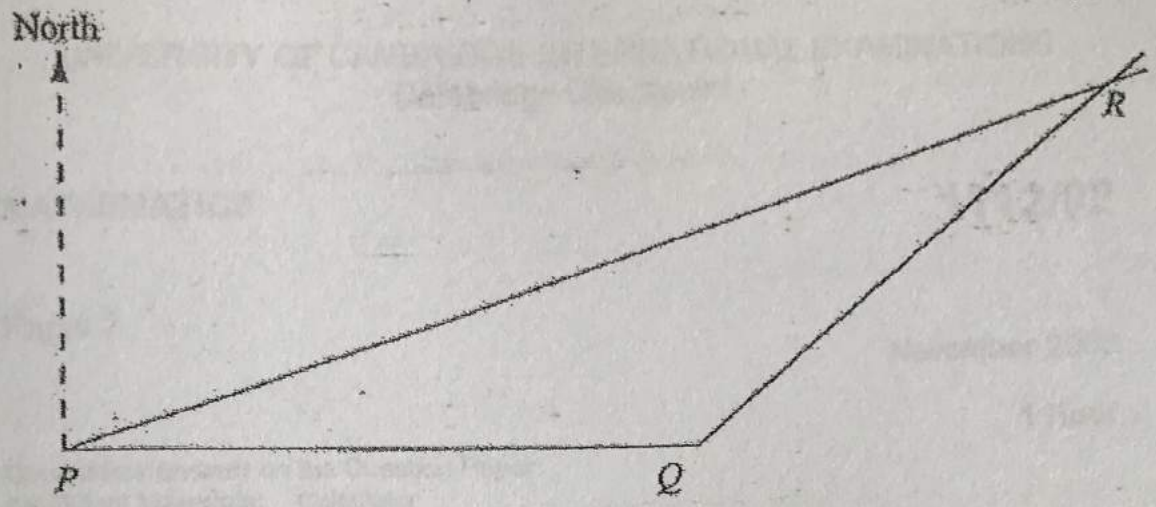
At Q the ship alters course and travels on a bearing of 042° for 35 km to point R.
Finally it returns directly to port, P.

(a) Complete the scale drawing below to show the journey of the ship.
Use a scale of 1 cm to represent 5 km.



[2]

(b) The drawing below shows Carl's answer to the problem.
He has used the correct scale but has not measured the bearing correctly.



(i) What is the distance from P to R on Carl's drawing.

.....cm [1]

(ii) Carl also uses his drawing to measure the bearing of R from P.
What is this bearing?
Give the answer to the nearest degree.

.....° [2]