| Surname | | Other Names | |
|---|---|---|---|
| Centre Number | | Candidate Number | |
| Candidate Signature | | | |

General Certificate of Secondary Education
June 2006

**MATHEMATICS (MODULAR) (SPECIFICATION B)**   **43003/HA**
Module 3   **Higher Tier  Section A**

**H**

AQA
ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Practice Paper (Two-tier Specification) 2008

**For this paper you must have:**
● a calculator
● mathematical instruments
● a treasury tag

Time allowed for Section A: 40 minutes

**Instructions**

● Use blue or black ink or ball-point pen.  Draw diagrams in pencil.
● Fill in the boxes at the top of this page.
● Answer **all** questions.
● Answer the questions in the spaces provided.
● Use a calculator where appropriate.
● Do all rough work in this book.
● This paper is divided into two sections: Section A and Section B.
● After the 40 minutes allowed for Section A, you must put your calculator on the floor under your seat.  You will then be given Section B.
● When you have answered Section B you may work again on Section A but you may **not** use your calculator.  It must remain on the floor under your seat.
● At the end of the examination tag Section A and Section B together with Section A on top.

**Information**

● The maximum mark for Section A is 32.
● The marks for questions are shown in brackets.
● You may ask for more answer paper and graph paper.  These must be tagged securely to this answer book.

**Advice**

● In all calculations, show clearly how you work out your answer.

| For Examiner's Use | | | |
|---|---|---|---|
| **Section A** | | **Section B** | |
| Pages | Mark | Pages | Mark |
| 2−3 | | 2−3 | |
| 4−5 | | 4−5 | |
| 6 | | 6−7 | |
| | | 8 | |
| Total Section A | | | |
| Total Section B | | | |
| TOTAL | | | |
| Examiner's Initials | | | |

**43003/HA**

Answer **all** questions in the spaces provided.

**1** (a) A lawnmower is advertised as shown.

**LAWNMOWER**

**£76 plus VAT**
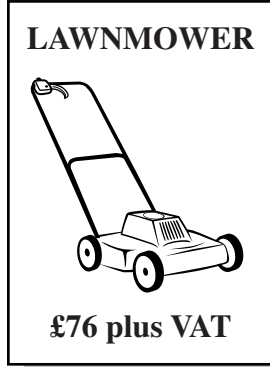
VAT is added at 17.5%.

Work out the cost of the lawnmower including VAT.

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Answer £ ...................................................................................... *(3 marks)*

(b) A shop has 40 lawnmowers for sale.
They sell 15 in one day.

What percentage is 15 out of 40?

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Answer ..................................................................................... % *(2 marks)*

**2** Jeff is buying cartons of orange juice.
The cartons cost 34 pence each.

Show that he can buy more than twice as many cartons with £10 as he can with £5.

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*(3 marks)*

**3** Find $\dfrac{4.8 \times 1.6}{5.8 - 1.9}$ giving your answer to one decimal place.

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Answer ...................................................................................... *(2 marks)*

**4** (a) Roma invests £400 for three years at 4% compound interest.

Show that, at the end of the three years, she has a total investment of £449.95 to the nearest penny.

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*(3 marks)*

(b) Calculate the percentage increase from £400 to £449.95

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Answer ................................................................................ % *(3 marks)*

16

**Turn over** ▶

**5**   A trailer weighs 729 kilograms correct to the nearest kilogram.

Write down the least possible weight of the trailer.

Answer .......................................................................... kilograms *(1 mark)*


**6**   There are 22 million houses in the United Kingdom.

(a)   On average each of these 22 million houses has a value of £82 000.

What is the total value of all these houses?
Give your answer in standard form.

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Answer  £ ..................................................................................... *(2 marks)*

(b)   7700 of the 22 million houses have a value of over £1 million.

What percentage of the total number of houses has a value of over £1 million?
Give your answer in standard form.

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Answer ................................................................................... % *(3 marks)*

**7**  In a motor company the sales staff are paid a weekly bonus (*B*) according to how many cars they sell in that week (*N*).

The equation connecting *B* and *N* is  $B = 20N^2$

(a)  Complete the bonus table.

| Number of cars sold per week (*N*) | Bonus (*B*), £ |
|:---:|:---:|
| 0 | 0 |
| 1 | |
| 2 | |
| 3 | 180 |
| 4 | |
| 5 | |

*(2 marks)*

(b)  Tyrone said that his bonus for the last two weeks was a total of £810.
Peter said that was not possible.
Peter said, "Your bonus could have been £800 or £820 but not £810."

Show that Peter is correct.

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*(3 marks)*

**Turn over for the next question**

**11**

**8** Jose has 10 bottles containing fizzy drink.
Each bottle contains 2 litres of fizzy drink to the nearest 10 millilitres.
He pours the drink into cups.
Each cup holds 210 millilitres to the nearest 5 millilitres.

What is the maximum number of cups that he can fill?

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Answer ........................................................................................ *(5 marks)*

**END OF SECTION A**

**5**