Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

For Examiner's Use

General Certificate of Secondary Education
March 2010

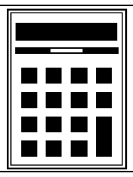
AQA

MATHEMATICS (MODULAR) (SPECIFICATION B) 43053/FA
Module 3 Foundation Tier Section A

F

Tuesday 2 March 2010 9.00 am to 9.45 am

For this paper you must have:
- a calculator
- mathematical instruments
- a treasury tag.



Time allowed for Section A: 45 minutes

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

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- 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 45 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 35.
- The marks for questions are shown in brackets.
- You may ask for more answer paper. This must be tagged securely to this answer book.

Advice

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

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

1 A cleaner earns £6.80 for every hour he works.
On Monday he works from 6.00 am to 9.00 am and from 5.00 pm to 7.00 pm.

How much does he earn?

.....

.....

Answer £ ..... *(3 marks)*

2 (a) (i) Calculate 6552 ÷ 39.

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

2 (a) (ii) Write your answer to part (i) to the nearest 100.

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

2 (b) Calculate the square root of 784.

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

2 (c) Calculate $7^3 - (18 + 56)$

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

2 (d) Write down a prime number between 30 and 40.

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

3 These cards show the number 5619.

5	6	1	9

3 (a) Use all four cards to make the largest possible number.

.....

Answer ☐ ☐ ☐ ☐ *(1 mark)*

3 (b) Use all four cards to make a number that is a multiple of 5.

Answer ☐ ☐ ☐ ☐ *(1 mark)*

3 (c) Use all four cards to make the smallest possible number that is divisible by 2.

.....

Answer ☐ ☐ ☐ ☐ *(2 marks)*

3 (d) Use all four cards to make a fraction that is less than 1.

Answer $\frac{\square\ \square}{\square\ \square}$ *(1 mark)*

3 (e) Use all four cards to make a correct statement.

.....

Answer ☐ + ☐ + ☐ − ☐ = 19 *(1 mark)*

14

4 (a) Sandwiches cost £1.45 each.

How many sandwiches can be bought for £10?

.....

.....

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

4 (b) The price of one ticket for a music festival is £20.

Special offer

3 tickets for the price of 2

Show that seven tickets can be bought for £100.

.....

.....

.....

.....

(3 marks)

5 A calculator display shows

52.3805629

5 (a) Round the number on the display to one decimal place.

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

5 (b) Round the number on the display to one significant figure.

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

6 Packets of biscuits are sold in two sizes, medium and large.
Rosa buys four medium packets.
She has a total of 56 biscuits.
Tomasz buys three medium packets and two large packets.
He has a total of 78 biscuits.

Work out the number of biscuits in one large packet.
You **must** show your working.

.....

.....

.....

.....

.....

.....

Answer ..... *(4 marks)*

Turn over for the next question

11

7 A car journey is 165 miles.
The average speed is 55 miles per hour.

7 (a) How many hours does the journey take?

.....

.....

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

7 (b) There are roadworks on the return journey.
The average speed is reduced by 40%.

Work out the average speed on the return journey.

.....

.....

.....

Answer ..... miles per hour *(3 marks)*

8 (a) Write down the least common multiple (LCM) of 3, 4 and 6.

.....

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

8 (b) The highest common factor (HCF) of 70 and 112 is 14.

Work out the highest common factor of 140 and 224.

.....

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

8 (c) Write 92 as the product of prime factors.

.....

.....

.....

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

END OF SECTION A

10

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

General Certificate of Secondary Education
March 2010

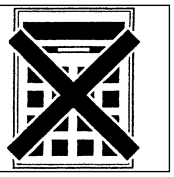
MATHEMATICS (MODULAR) (SPECIFICATION B) 43053/FB
Module 3 Foundation Tier Section B

F

Tuesday 2 March 2010 9.50 am to 10.35 am

For this paper you must have:
- mathematical instruments.

You must **not** use a calculator.



Time allowed for Section B: 45 minutes

Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book.
- You may **not** use your calculator in Section B. Your calculator must remain on the floor under your seat.
- 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 B is 35.
- The marks for questions are shown in brackets.
- You may ask for more answer paper. This must be tagged securely to this answer book.

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

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

9 (a) Add three hundred to five thousand eight hundred.

Give your answer in figures.

.....

.....

.....

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

9 (b) Work out $\frac{1}{2}$ of 20 000.

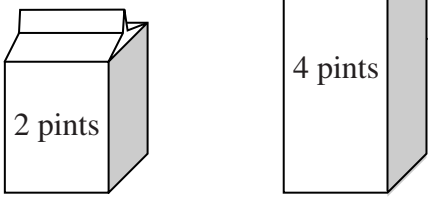
Give your answer in words.

.....

.....

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

10 Cartons of milk are sold in two sizes.



90p £1.68

Which carton is better value?
You **must** show your working.

.....

.....

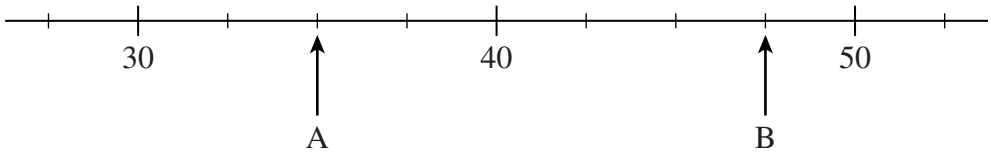
.....

.....

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

11 Write down the value of each number indicated by an arrow.

11 (a)

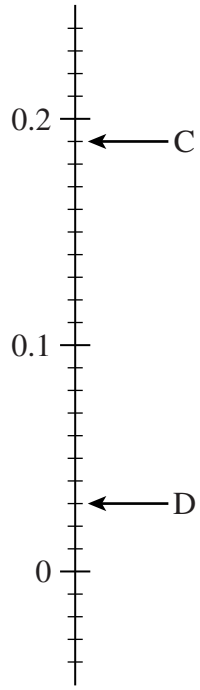


Answer A = ...

B = ...

(2 marks)

11 (b)



Answer C = ...

D = ...

(2 marks)

10

12 The result of the men's 100 metres race at the Olympic Games in 2008 is shown.

Medal	Athlete	Time (seconds)
Gold	Usain Bolt	9.69
Silver	Richard Thompson	9.89
Bronze	Walter Dix	9.91

12 (a) (i) What is the difference between the times for Usain Bolt and Richard Thompson?

.....

.....

.....

Answer ..... seconds *(1 mark)*

12 (a) (ii) What is the difference between the times for the Silver medal winner and the Bronze medal winner?

.....

.....

.....

Answer ..... seconds *(1 mark)*

12 (b) If the three times are added together the total will be less than half a minute.

Explain why this is correct.

.....

.....

.....

.....

(2 marks)

13 A palindromic number has digits that are the same when read forwards and backwards.

For example 474 is a palindromic number

3553 is a palindromic number

13 (a) Write down a palindromic number between 200 and 300.

.....

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

13 (b) Write down the palindromic number closest to 8000.

.....

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

14 Miss Jones shows her class a method to work out percentages.

To work out 35% of 20

35% of 20 is the same as 20% of 35.

Work out 20% of 35 as it is easier to do.

20% of $35 = \frac{1}{5}$ of 35

$= 7$

So, 35% of 20 = 7

Use this method to work out 84% of 25.

.....

.....

.....

.....

.....

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

10

Turn over ▶

15 (a) Work out $204 \div 6$

.....

.....

.....

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

15 (b) Work out $\frac{3}{8} \times \frac{4}{5}$

Give your answer in its simplest form.

.....

.....

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

15 (c) Work out $\frac{5}{6} + \frac{1}{4}$

.....

.....

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

15 (d) What is the reciprocal of 2?

Circle the correct answer.

-2 0.2 $\frac{1}{2}$ 2

(1 mark)

16 (a) Given that $-26 \times 32 = -832$
write down the answer to 26×-32

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

16 (b) Work out $(-5)^2$

.....

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

16 (c) Work out $18 \div -2$

.....

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

17 To make Fizzy Delight, orange juice and lemonade are mixed in the ratio 1 : 3
Lottie has 200 ml of orange juice and 350 ml of lemonade.
She wants to use all her orange juice to make Fizzy Delight.

How much more lemonade is needed?

.....

.....

.....

Answer ..... ml *(3 marks)*

18 Sadiq buys a guitar for £150 and sells it for £210.

Work out his percentage profit.

.....

.....

.....

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

END OF QUESTIONS

15

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED