## GCSE

**WJEC CBAC**

4352/01

## MATHEMATICS (UNITISED SCHEME)
### UNIT 2: NON-CALCULATOR MATHEMATICS
### FOUNDATION TIER

A.M. WEDNESDAY, 13 June 2012

$1\frac{1}{4}$ hours

**Suitable for Modified Language Candidates**

**CALCULATORS ARE
NOT TO BE USED
FOR THIS PAPER**

**INSTRUCTIONS TO CANDIDATES**

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

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

If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

Take π as 3·14.

**INFORMATION FOR CANDIDATES**

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **4**(d).

| For Examiner's use only | | |
|---|---|---|
| **Question** | **Maximum Mark** | **Mark Awarded** |
| **1** | 9 | |
| **2** | 4 | |
| **3** | 4 | |
| **4** | 10 | |
| **5** | 3 | |
| **6** | 4 | |
| **7** | 8 | |
| **8** | 6 | |
| **9** | 5 | |
| **10** | 3 | |
| **11** | 4 | |
| **12** | 5 | |
| **TOTAL MARK** | | |

**Formula List**

**Area of trapezium** = $\frac{1}{2}(a + b)h$
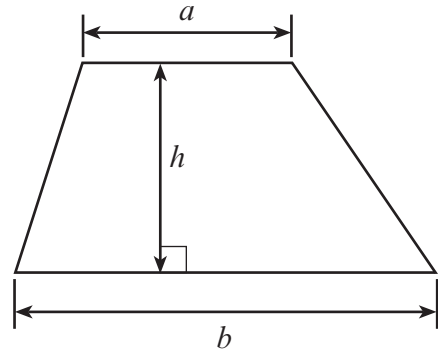
**Volume of prism** = area of cross-section × length

(4352-01)
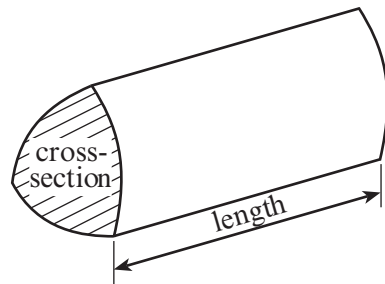
**1.** *(a)* (i) Write down, in words, the number 7089.

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[1]

(ii) Write down, in figures, the number thirty seven thousand, two hundred and four.

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[1]

*(b)* Find the sum of 618 and 197.

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[1]

*(c)* What number must be added to 256 to make 824?

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[1]

*(d)* Write down the value of the 6 in the number 49 652.

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[1]

*(e)* Find an **estimate** for the value of $68 \cdot 9 \times 11$. **Show all your working.**

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[2]

*(f)* Write down all the factors of 27.

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[2]

**2.** **Circle** the quantity that is the appropriate estimate for each of the following.

| | | | | |
|---|---|---|---|---|
| Weight of a man | 80 g | 800 kg | 80 mg | 80 kg |
| Distance from Bangor to Cardiff | 270 mm | 270 cm | 270 m | 270 km |
| Height of woman | 170 cm | 17 m | 170 mm | 1700 cm |
| Volume of a glass of water | 27 litres | 270 ml | 2·7 cm$^3$ | 2700 litres |

[4]

**3.** *(a)*

| 3 | 7 | 3 | 7 | 3 | 7 | 3 | 2 | 3 | 3 |
|---|---|---|---|---|---|---|---|---|---|

Tim puts the ten cards shown above into a bag.
He picks one card at random from the bag.
On the probability scale shown below, mark the points **A**, **B** and **C** where

**A** is the probability that Tim picks a card with 3 on it,

**B** is the probability that Tim picks a card with a number greater than 1 on it,

**C** is the probability that Tim picks a card with 7 on it.

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0                                                 1
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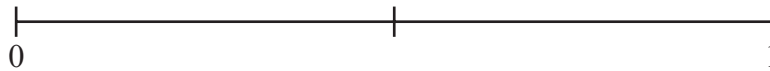
[3]

*(b)* Describe the chance of Tim choosing a card with 2 on it. **Circle** the best expression from those given below.

**impossible      unlikely      an even chance      likely      certain**

[1]

**4.** *(a)* Describe **in words** the rule for continuing **each** of the following sequences.

(i) 7,   21,   35,   49,   ...........................

Rule: ...........................................................................................................................................

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[1]

(ii) 12,   24,   48,   96,   ........................

Rule: ...........................................................................................................................................

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[1]

*(b)* Estimate the value of $\sqrt{24}$ to the nearest whole number.

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[1]

*(c)* Find 60% of 70.

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[2]

*(d)* *The quality of your written communication will be assessed in this part of the question.*

Mary has £10. She wants to buy cards costing 85p each.
What is the greatest number of cards she can buy?
How much change will she get?

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[5]

**5.** Plot and label the points $A(4, -3)$, $B(-2, 0)$ and $C(-3, -2)$. Use the graph paper below for your answers. [3]
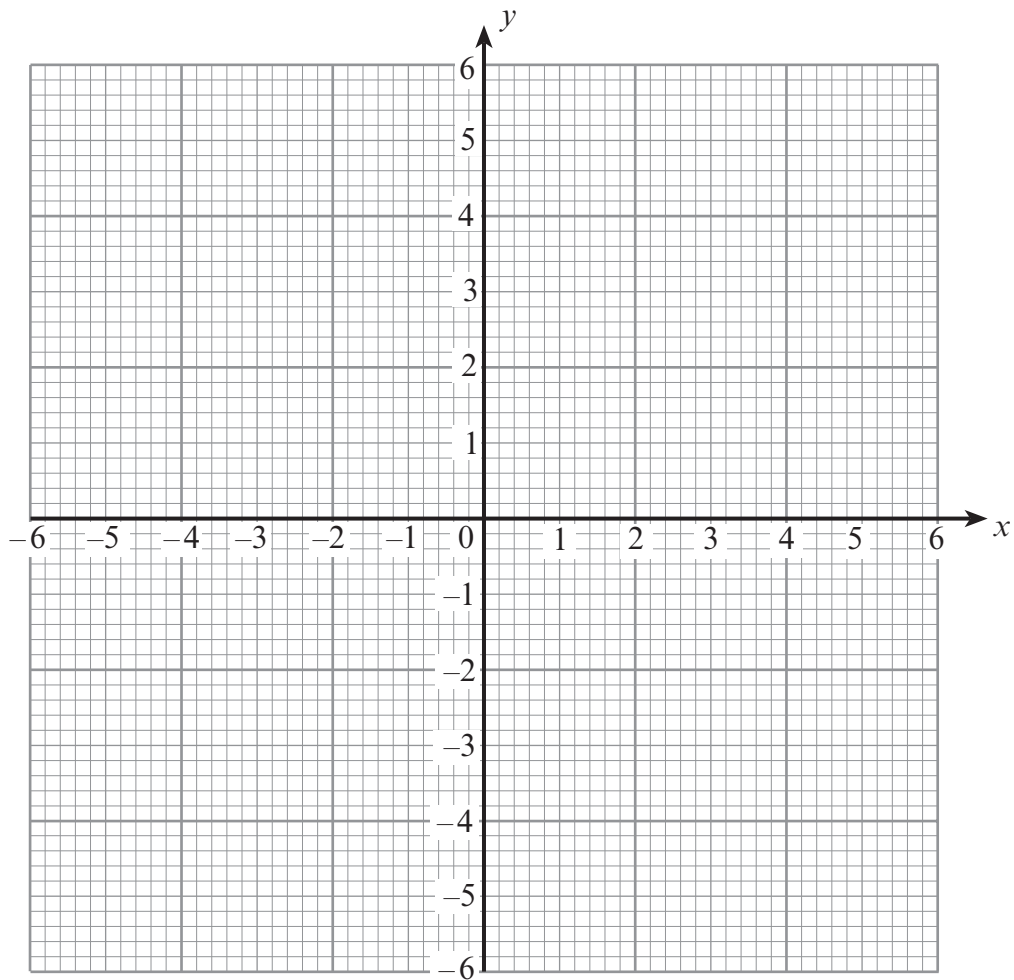
**6.**
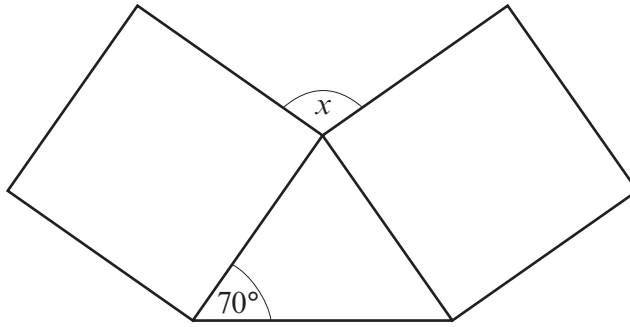


*Diagram not drawn to scale*

The diagram shows two identical squares.
Find the size of the angle *x*.

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[4]

**Turn over.**

**7.** *(a)* (i) A magazine costs £*m*.
Write down, in terms of *m,* the cost of 6 magazines.

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[1]

(ii) Louise weighs *x* kg.
Imrana is 4 kg lighter.
Write down, in terms of *x,* Imrana's weight.

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[1]

*(b)* Find the value of $7x + 3y$ when $x = -2$ and $y = 4$.

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[2]

*(c)* Solve $5x - 3 = 17$.

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[2]

*(d)* Here is a number machine.

| INPUT | → | SUBTRACT 4 | → | DIVIDE BY 6 | → | OUTPUT |
|-------|---|------------|---|-------------|---|--------|
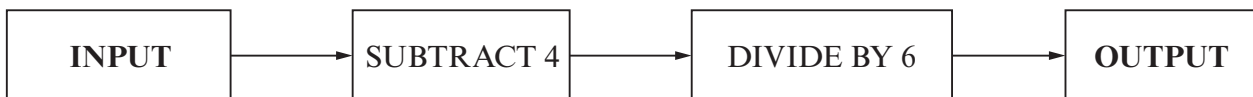
Write down the **OUTPUT** when the **INPUT** is *n*.

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[2]

**8.** A bag contains four balls numbered 1, 3, 5 and 7 respectively.
A box contains four discs, one coloured red, one blue, one green and one yellow.
In a game, a player takes one ball at random from the bag and one disc at random from the box.
If the colour of the disc is red or blue, the score for the game is 3 times the number on the ball.
If the colour of the disc is green or yellow, the score for the game is just the number on the ball.

*(a)* Complete the table below to show all the possible scores.
Some entries have been done for you.

| Box | | | | | |
|---|---|---|---|---|---|
| | green | | | | |
| | | | | | |
| | red | 3 | | 15 | |
| | | 1 | | 5 | |

Bag

[3]

*(b)* Find the probability that the score is

(i) 9 or more,

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[2]

(ii) less than 9.

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[1]

**Turn over.**

**9.** Hamish is in London one Tuesday afternoon.
He looks at the world clock shown below.

| World clock | | |
|---|---|---|
| London | New York | Sydney |
| 13:38 Tuesday | 08:38 Tuesday | 21:38 Tuesday |

*(a)* Hamish has a plane to catch in 6 hours 34 minutes time.
At what time does his plane leave, in New York time?

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[2]

*(b)* Hamish decides to make a telephone call to Sydney before he leaves.
He makes the call at 17:05 in London.
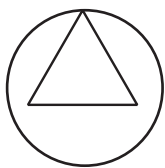What time **and** day is this in Sydney?

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Time ........................................... Day ...........................................
[3]

**10.**
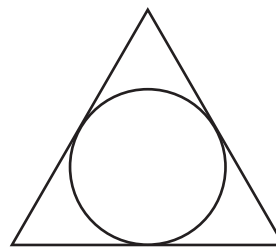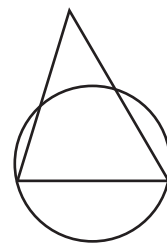


A          B          C          D

Match each statement in the table with one of the diagrams shown above.

| Statement | Diagram |
|---|---|
| All three sides of the triangle are tangents to the circle | |
| All the vertices of the triangle touch the circle | |
| Only one side of the triangle is a chord of the circle | |

[3]

**11.** Reflect triangle $A$ in the $x$-axis. Label your answer $B$.
Then rotate your triangle $B$ by 90° clockwise about the origin.
Label your final answer $C$.



[4]

**Turn over.**

**12.** Thomas bought 30 webcams at £22 each and 120 USB drives at £50 each to sell in his shop.
He made 50% profit on the sale of each webcam.
Thomas sold all his stock of webcams and USB drives.
In total, his takings from the sales of webcams and USB drives was £7590.
Calculate the percentage profit he made on the sale of the USB drives.

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[5]

| Question number | Additional page, if required. Write the question numbers in the left-hand margin | Examiner only |
|---|---|---|
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