

Surname	Centre Number	Candidate Number
First name(s)		0

**GCSE**

3300U20-1



A24-3300U20-1

**WEDNESDAY, 13 NOVEMBER 2024 – MORNING**

**MATHEMATICS**  
**UNIT 2: CALCULATOR-ALLOWED**  
**FOUNDATION TIER**

1 hour 30 minutes

**ADDITIONAL MATERIALS**

A calculator will be required for this examination.

A ruler, protractor and a pair of compasses may be required.

**INSTRUCTIONS TO CANDIDATES**

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

You may use a pencil for graphs and diagrams only.

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

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

Take  $\pi$  as 3.14 or use the  $\pi$  button on your calculator.

**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.

In question 7, the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

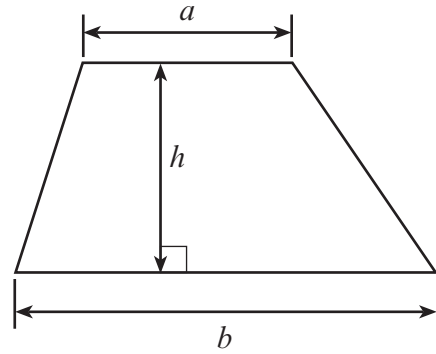
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	4	
2.	4	
3.	3	
4.	3	
5.	2	
6.	4	
7.	5	
8.	2	
9.	5	
10.	1	
11.	5	
12.	4	
13.	4	
14.	4	
15.	5	
16.	2	
17.	4	
18.	4	
<b>Total</b>	<b>65</b>	



NOV243300U20101

**Formula List – Foundation Tier**

**Area of trapezium**  $= \frac{1}{2} (a + b)h$



1. Complete the calculations below.

[4]

$$325 + \dots = 1297$$

$$\dots - 694 = 149$$

$$\dots \times 53 = 4505$$

$$1344 \div \dots = 21$$

.....

.....

.....

.....

.....



2. (a) Write down, in figures, the number four hundred thousand, one hundred and eight. [1]

.....

- (b) Stef uses each of the digits 4, 5, 9 and 3 to make a four-digit number.  
What is the largest number that she can make that is a multiple of 5? [1]

--	--	--	--

.....

- (c) Write down **all** the factors of 20. [2]

.....

.....

3. Cerys chooses a card at random from three different sets of four cards.

In each part, **write numbers on the four cards** to make the statement true.

- (a) It is impossible that the card Cerys chooses will be a 7. [1]

--	--	--	--

- (b) It is likely that the card Cerys chooses will be a 7. [1]

--	--	--	--

- (c) There is an even chance that Cerys chooses a number less than 7. [1]

--	--	--	--



4. In the grid below:

- each column must add to 150
- each row must add to 150.

Complete the grid.

[3]

83	.....	.....
45	.....	88
.....	93	.....

.....

.....

.....

.....

.....

.....

5. Sophie says,

“5 minutes 8 seconds is double 2 minutes 54 seconds.”

Is Sophie correct?

YES  NO

You must show working to support your answer.

[2]

.....

.....

.....

.....

.....





8. Use the formula  $T = 4A + 8B$  to find the value of  $T$  when  $A = 45$  and  $B = 19$ . [2]

.....

.....

.....

9. (a) Tomos wants to find the median of the numbers below.

7      1      20      14      11

He writes the answer 20.

- Explain** why Tomos's answer is incorrect. [1]

.....

.....

.....

- (b) Ted writes down five numbers:

59      89      77      31      83

- (i) Calculate the mean of Ted's numbers. [3]

.....

.....

.....

.....

- (ii) Every number in Ted's list is decreased by 3.  
What is the mean of the numbers in his new list? [1]

.....

.....



10. Abby is asked how many quarters there are in 8.

She writes  $8 \div 4 = 2$ .

**Explain** why Abby's method is incorrect.

[1]

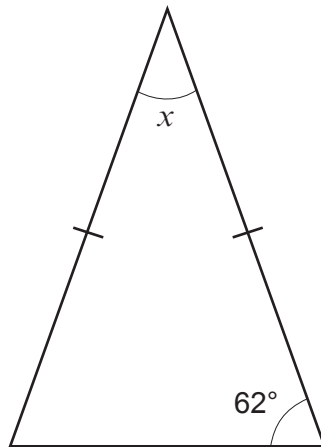
.....

.....

.....

11. (a) Calculate the size of angle  $x$ .

[2]



*Diagram not drawn to scale*

.....

.....

.....

.....

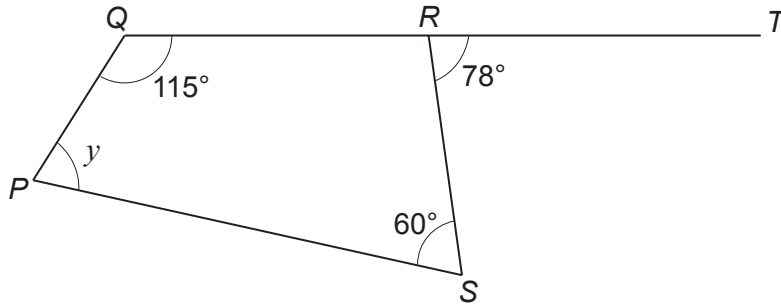
.....

$$x = \text{.....}^\circ$$



- (b)  $PQRS$  is a quadrilateral.  
 $QRT$  is a straight line.  
Calculate the size of angle  $y$ .

[3]



*Diagram not drawn to scale*

.....

.....

.....

.....

.....

$y = \text{.....}^\circ$





Examiner  
only

13. (a) Calculate the following.

$$\frac{17}{50} \text{ of } 24.5 + 78\% \text{ of } 103.5$$

You must show all your working. [2]

.....

.....

.....

.....

.....

(b) Express £19.44 as a percentage of £36. [2]

.....

.....

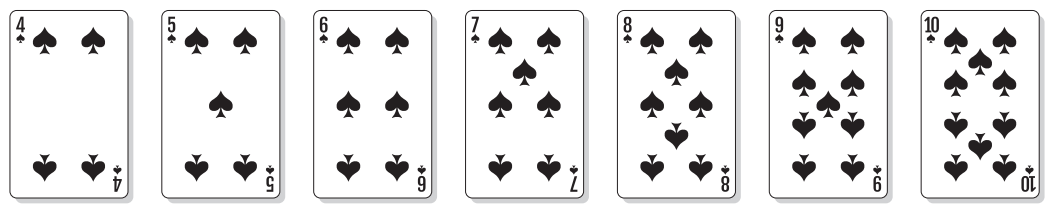
.....

.....

.....



14. Megan has the following 7 playing cards.



She turned these cards face down.  
Megan then chose a card at random and recorded the number.

(a) What is the probability that Megan recorded the number 5?  
Circle your answer. [1]

- $\frac{5}{7}$        $\frac{1}{7}$       1      5       $\frac{7}{5}$

.....

(b) (i) What is the probability that Megan recorded a square number?  
Circle your answer. [1]

- $\frac{2}{5}$        $\frac{1}{7}$        $\frac{2}{7}$        $\frac{4}{7}$        $\frac{4}{5}$

.....  
.....  
.....

(ii) Megan chooses a card at random 91 times.  
How many times would you expect Megan to record a square number?  
You must show all your working. [2]

.....  
.....  
.....  
.....  
.....



15. Solve each of the following equations.

(a)  $3y - 5 = 19$

[2]

.....

.....

.....

.....

.....

(b)  $8p + 5 = 3p - 25$

[3]

.....

.....

.....

.....

.....



Examiner  
only

16. A bag contains 1 yellow counter and 2 pink counters.  
Olga puts more yellow counters into the bag.

She takes one counter out of the bag at random.  
The probability of taking a yellow counter out of the bag is  $\frac{3}{4}$ .

How many **more** yellow counters did Olga put into the bag? [2]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Olga put ..... more yellow counters into the bag



**BLANK PAGE**

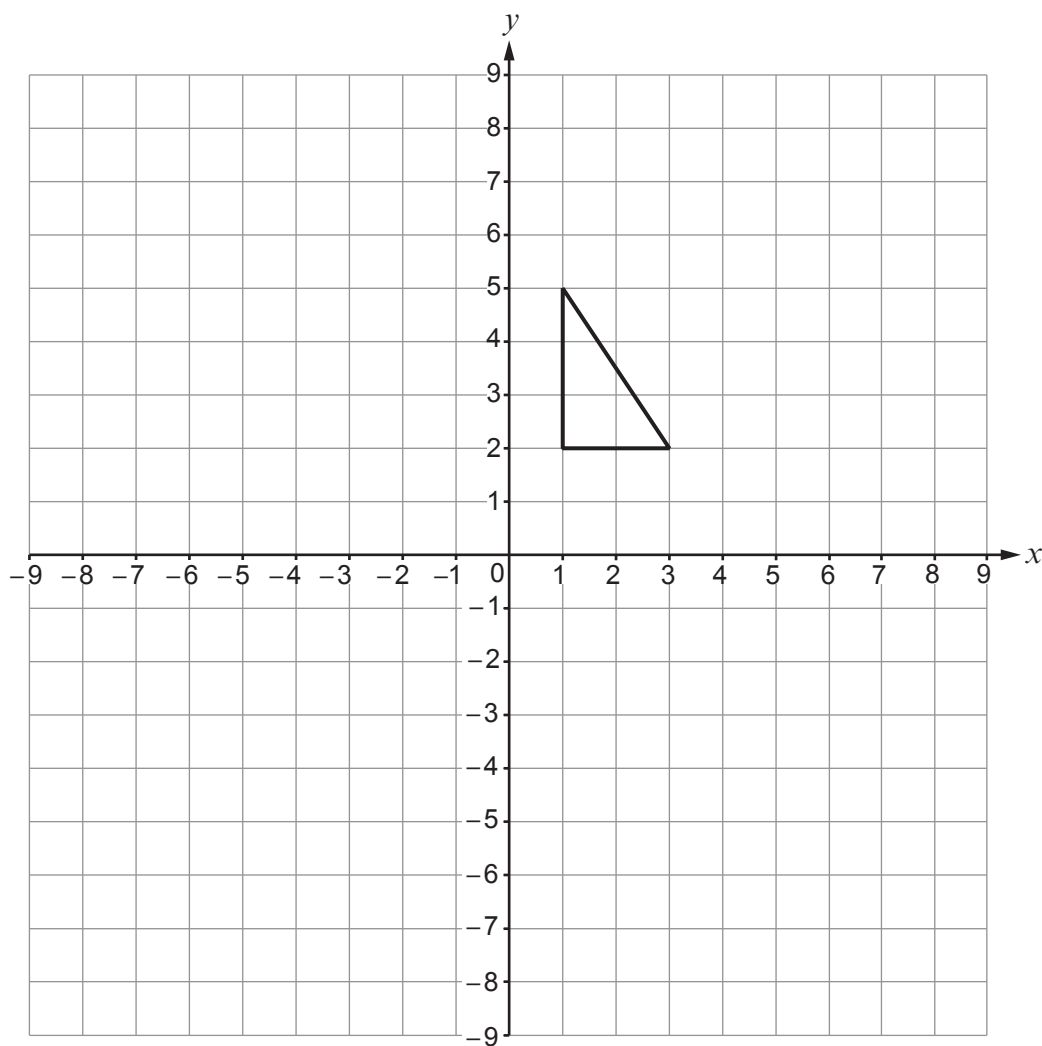
**PLEASE DO NOT WRITE  
ON THIS PAGE**

**TURN OVER.**



17. (a) Rotate the triangle through  $90^\circ$  clockwise, about the origin.

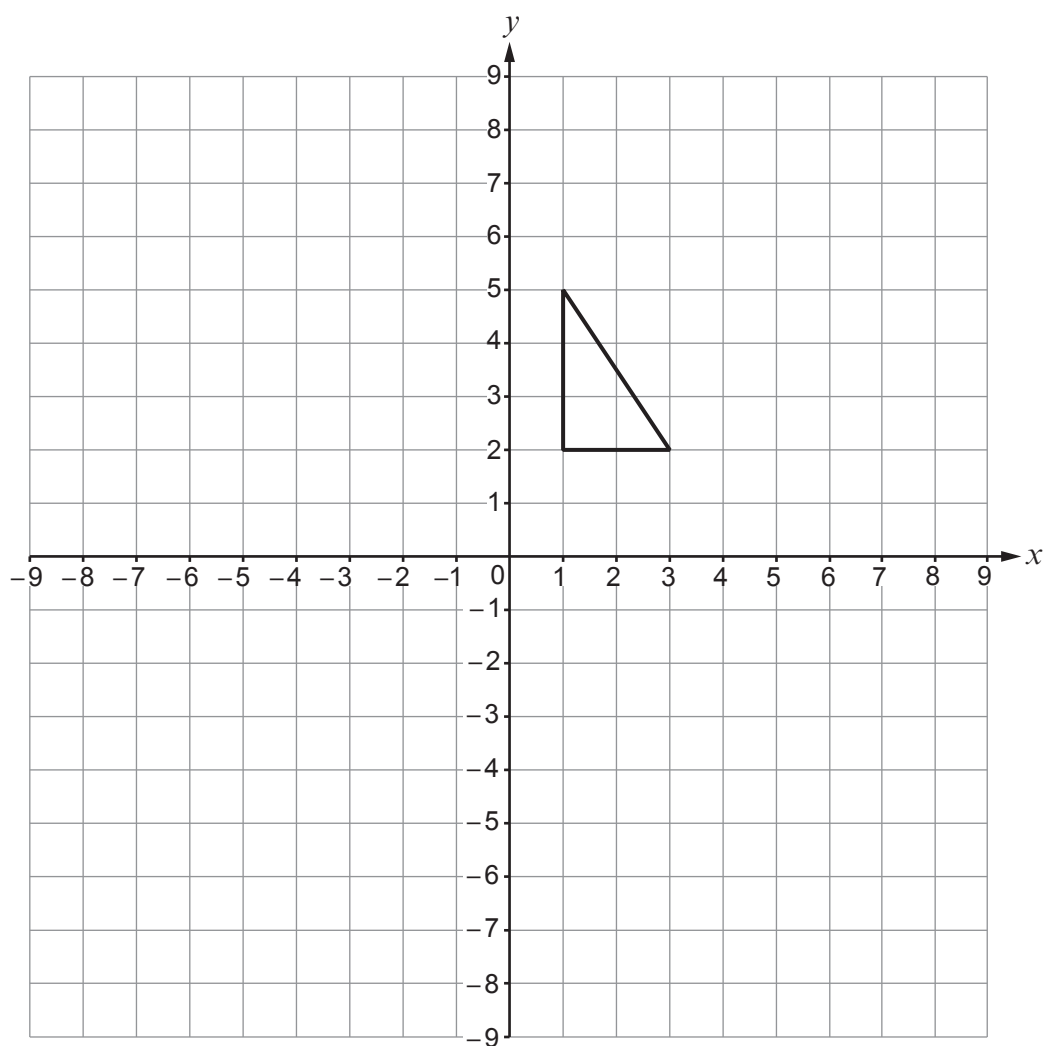
[2]

Examiner  
only

(b) Reflect the triangle in the line  $x = -2$ .

[2]

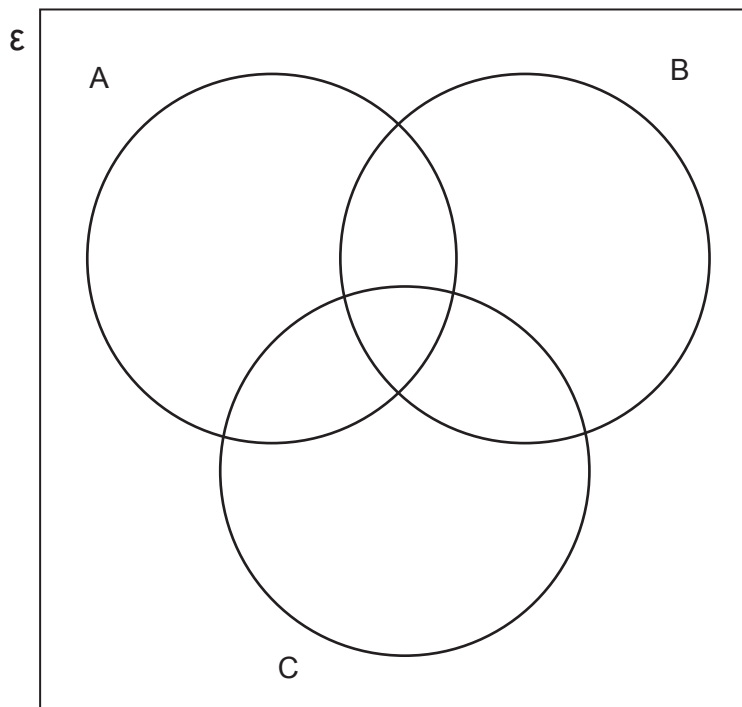
Examiner  
only



18. Display the following information in the Venn diagram below.

[4]

- Universal Set  $\mathcal{E}$  = {Integers between 1 and 7 inclusive}
- Set A = {even numbers}
- Set B = {factors of 6}
- Set C = {prime numbers}



.....

.....

.....

.....

.....

.....

.....

.....

.....

**END OF PAPER**





**BLANK PAGE**

**PLEASE DO NOT WRITE  
ON THIS PAGE**

