



# United Curriculum

## Mid-Year Assessment 2024-25

### Mathematics

Time: 1 hour

Year 9

Non-Calculator Mid-Year Assessment

Surname:

First name(s):

Class name / number:

You must have: a pencil, ruler, protractor and tracing paper.



#### Instructions

- Fill in the boxes on the front page.
- Use a black ink pen. Draw diagrams in pencil.
- You may **not** use a calculator.
- The marks for each question are shown.
- Answer the questions in the space provided.
- Show **clearly** how you work out your answer.
- Do all rough work in this book. Cross through any work you do not want to be marked.

#### Advice

- Read each question carefully before you begin.
- Try your best to answer every question. If you have time, go back and review your answers.

For Teacher use only:

TOTAL MARKS

60

**Question 1**

Write 0.6 as a percentage.

Answer = .....

	1
--	---

**Question 2**

Simplify  $2a + 9a - 3a$

Answer = .....

	1
--	---

**Question 3**

Round 14.392 to two decimal places.

Answer = .....

	1
--	---

**Question 4**

Solve

4a.  $\frac{x}{2} = 0.5$

$x =$  .....

	1
--	---

4b.  $a + 2 = -1$

$a =$  .....

	1
--	---

**Question 5**

Work out

5a.  $12.7 + 3.92$

Answer =

---

	2
--	---

5b.  $12 \div 0.4$

Answer =

---

	2
--	---

**Question 6**

Solve

$$y + y + y = \frac{3}{10}$$

Answer =

---

	1
--	---

**Question 7**

Calculate

$$\frac{2}{5} + \frac{2}{3}$$

Give your answer as a mixed number.

Answer =

---

	2
--	---

**Question 8**Factorise  $8a - 32b$ 

Answer =

---

	1
--	---

**Question 9**

Estimate

$$\frac{49 \times 811}{0.41}$$

Answer =

---

	2
--	---

**Question 10**

Given  $y = a + 7$

Write down the expression for  $2y$ .

Answer = .....

	1
--	---

**Question 11**

11a. Write down the reciprocal of 11.

Answer = .....

	1
--	---

11b. Write  $8 \times 2^2$  as a single power of 2.

Answer = .....

	2
--	---

11c. Write down the value of  $5^0$ .

Answer = .....

	1
--	---

**Question 12**

Work out  $32.1 \times 2.4$

Answer =

.....

	3
--	---

**Question 13**

Which is greater?

$\frac{2}{5}$  of 40      or       $\frac{5}{2}$  of 10

You must show your working.

Answer =

.....

	2
--	---

**Question 14**

Truncate  $0.957436$  to 2 decimal places.

Answer =

.....

	1
--	---

**Question 15**

Simplify

15a.  $a^6 \div a^{-1}$

	1
--	---

Answer = .....

15b.  $(x^3)^2$

	1
--	---

Answer = .....

**Question 16**16a. Write  $3.4 \times 10^4$  as a normal number.

	1
--	---

Answer = .....

16b. Calculate  $(7.1 \times 10^3) \times (4 \times 10^5)$ .

Write your answer in standard form.

	2
--	---

Answer = .....

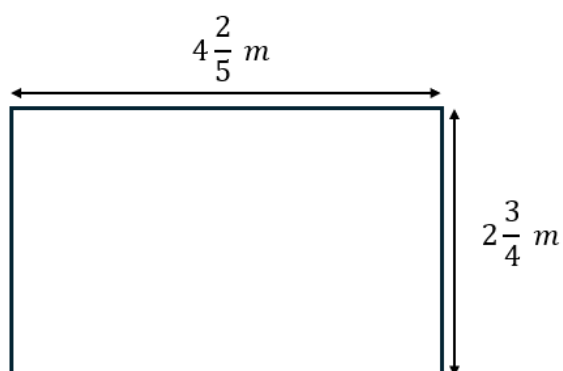
**Question 17**

Gbemi wants to cover her garden with grass seeds.

Grass seeds are sold in packets that cover  $1m^2$  and cost £2.50 each.

Her garden is shown below.

Work out how much it will cost to cover her garden.



Answer = .....

	5
--	---



**Question 18**

The weight ( $w$ ) of a car is 1500kg, rounded to two significant figures.

Work out the upper bound of the weight of the car.

Answer =

.....

	1
--	---

**Question 19**

Here is an identity.

$$(x - 3)^2 \equiv x^2 + bx + c$$

Work out the values of  $b$  and  $c$ .

$b =$

.....

$c =$

.....

	2
--	---

**Question 20**

Given that  $92 \times 320 = 29\,440$   
find the value of

$$2944 \div 92$$

Answer =

.....

	1
--	---

**Question 21**

Write the following expression as a single fraction in its simplest form.

$$\frac{2x - 5}{3} - \frac{x + 2}{6}$$

Answer =

.....

	3
--	---

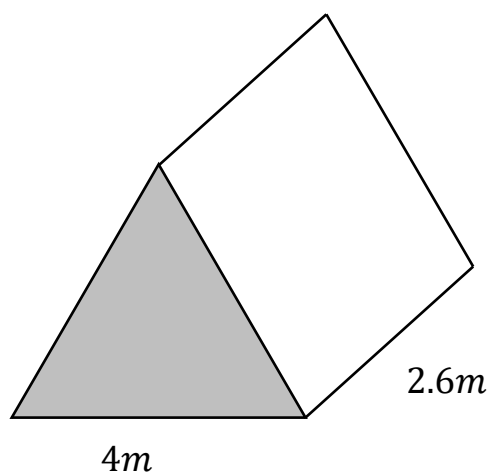
## Question 22

A triangular prism is shown below.

It has a volume of  $52m^3$ .

The depth of the prism is  $2.6m$ .

Work out the vertical height of the prism.



Answer = \_\_\_\_\_  $m$

	4
--	---

## Question 23

23a. Factorise  $2x^2 - 72$ 

Answer =

---

	2
--	---

23b. Factorise  $x^2 + 11x + 10$ 

Answer =

---

	2
--	---

**Question 24**

24a. Write 210 as a product of its prime factors.

Answer =

.....

	2
--	---

24b. Given that

$$2880 = 2^6 \times 3^2 \times 5$$

$$A = 6 \times 10^6$$

find the highest common factor of  $A$  and 2880.

Answer =

.....

	4
--	---

## Question 25

Work out the value of  $n$

$$\frac{1}{32^{\frac{4}{5}}} = 4^n$$

$n =$  .....

	3
--	---

END OF ASSESSMENT

This is the end of the assessment.  
There are no questions printed on this page.