

United Curriculum

End-of-Year Assessment 2023-24

Mathematics

Time: 1 hour

Year 8

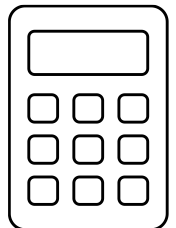
Paper 2 – Calculator assessment

Student surname:

Student first name(s):

Class Name / Number:

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



Instructions

- Fill in the boxes on the front page.
- Use a black ink pen. Draw diagrams in pencil.
- You may 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		PERCENTAGE
	60	

Question 1

Circle the three square numbers in the list below.

1

2

9

10

15

25

34

	1
--	---

Question 2

Two pens cost £1.98.

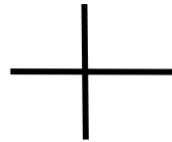
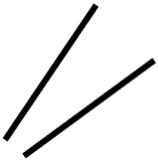
How much do five pens cost?

Answer =

	2
--	---

Question 3

Circle the lines that are parallel.



	1
--	---

Question 4

Find the lowest common multiple of 9 and 6.

Answer =

	1
--	---

Question 5

Anne surveys her class to find out what their favourite food is.

Pupils have 5 options to choose from.

Favourite Food	Tally	Frequency
Pasta		
Burger		
Rice		
Jacket Potato		
Other		

5a. Complete the frequency column.

	1
--	---

5b. How many pupils took part in the survey?

Answer =

	1
--	---

5c. What is the modal answer?

Answer =

	1
--	---

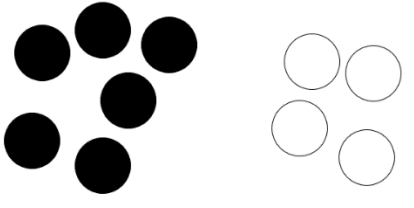
5d. How many **more** pupils chose Rice compared to Pasta.

Answer =

	1
--	---

Question 6

John has some black and white counters shown below.



6a. What is the ratio of black counters to white counters?

Answer =

.....

	1
--	---

6b. What is the smallest number of white counters that John needs to add so that the ratio of black counters to white counters is 1:1?

Answer =

.....

	1
--	---

Question 7

Write this ratio in the form $1 : n$

4 : 13

Answer =

.....

	1
--	---

Question 8

Circle the number that is closest to 15.

15.85

14.1

15.07

14.99

15.201

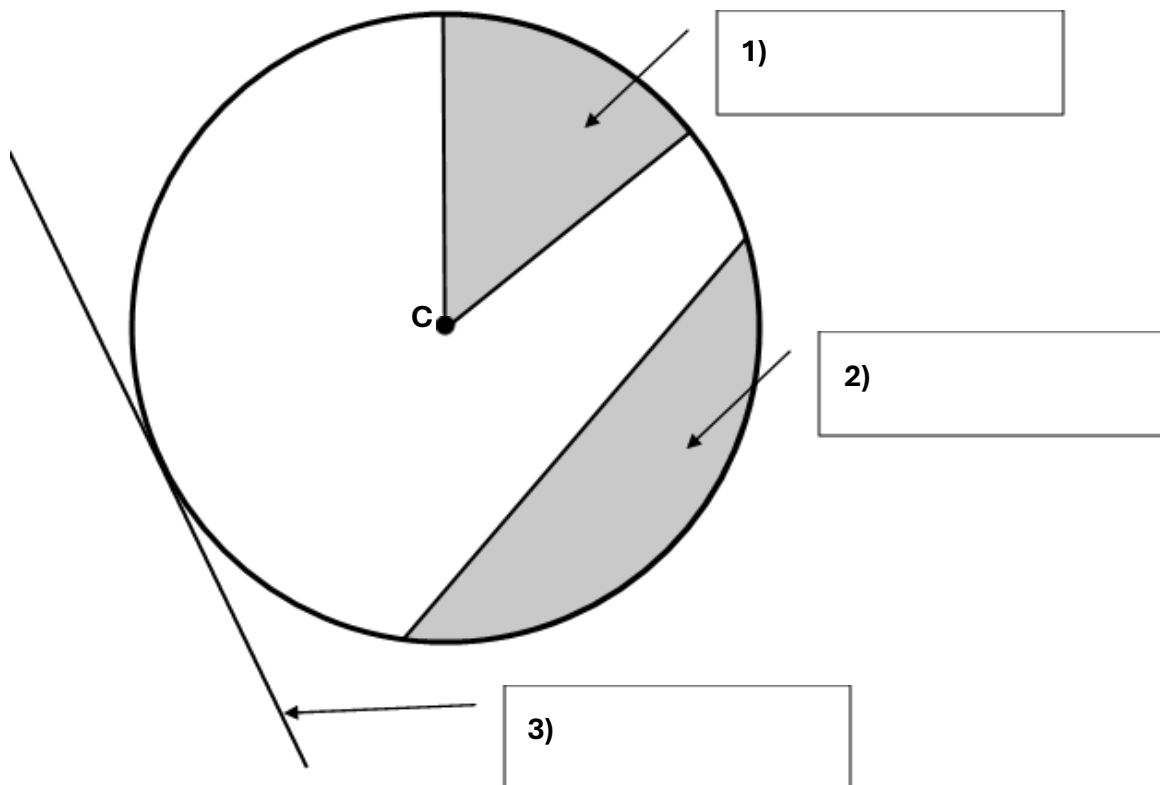
	1
--	---

Question 9

C is the centre of the circle shown below.

Complete the labels for the parts of the circle using the names below.

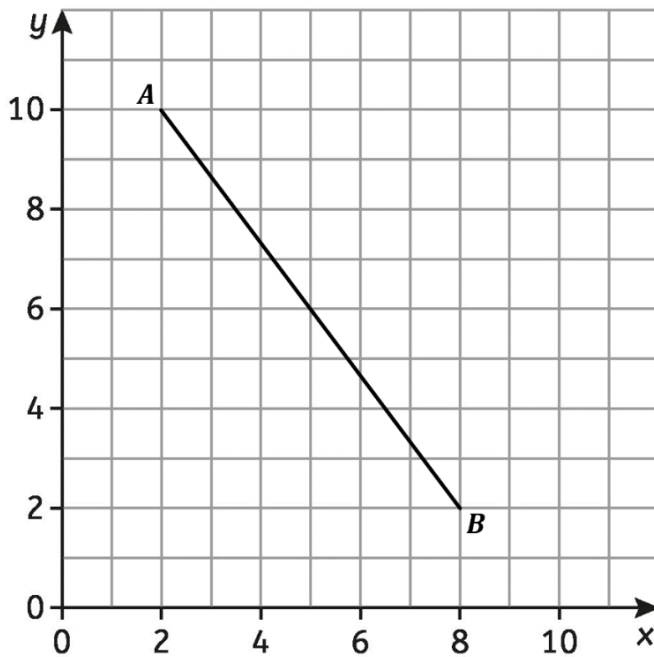
Tangent	Sector	Circumference	Segment
---------	--------	---------------	---------



	3
--	---

Question 10

Line segment AB is shown where A is the point $(2, 10)$ and B is the point $(8, 2)$.



10a. Plot the point $(7, 9)$ and label it C .

	1
--	---

10b. Join up point C to line segment AB to make a triangle.

What type of triangle is this?

Answer =

	1
--	---

10c. Point P is the midpoint of AB .

Work out the coordinates of P .

Answer =

	1
--	---

10d. A line is drawn from C that is

- parallel to the y -axis
- meets the x -axis at point D .

Write down the coordinates for D .

Answer =

	1
--	---

Question 11

There are three number cards face down on the desk.

Chris is told:

- The minimum is 6
- The range is 4
- The mean is 8

What are the values of the cards?

--	--	--

	2
--	---

Question 12

Here is part of a train timetable.

London	05:59	12:32
Leicester	07:06	13:36
Sheffield	08:13	14:42

12a. How long is the journey from London to Sheffield if you get on the 12:32 train?

Answer = hours and minutes

	1
--	---

12b. Mary gets on the train at Leicester at 07:06.

There is a 52 minute delay to her journey.

What time will she arrive in Sheffield?

Answer =

	1
--	---

Question 13

13a. Circle the calculation that increases £60 by 5%

$\text{£}60 \times 5$

$\text{£}60 \times 1.5$

$\text{£}60 \times 1.05$

$\text{£}60 \times 1.005$

	1
--	---

13b. Decrease 450 by 18%

Answer =

	2
--	---

13c. Mary increases 20 by 10%.

She then increases her result by 10% again.

Mary says that this is the same as increasing by 20%.

Show that Mary is wrong.

Answer =

	1
--	---

Question 14

Show that

$$\frac{12}{35} \times \frac{7}{36} = \frac{1}{15}$$

Answer =

.....

	1
--	---

Question 15

Round each number to two significant figures

15a. 36 800

Answer =

.....

	1
--	---

15b. 0.02074

Answer =

.....

	1
--	---

Question 16

Simplify these expressions

16a. $7b - 2a + b - 4a$

Answer =

.....

	1
--	---

16b. $2a^2 \times 5a$

Answer =

.....

	1
--	---

16c. $\frac{16ab}{4}$

Answer =

.....

	1
--	---

16d. $\frac{20pq}{6p}$

Answer =

.....

	1
--	---

Question 17

Jonathan sees this advert in the newspaper.

He has £700 to invest in a savings account providing **simple interest**.

If Jonathan invests, how much money would he have after 4 years?



Answer = £

	3
--	---

Question 18

Melissa, Adam and Scott share some money in the ratio 3: 1: 5.

Melissa has £41 more than Adam.

How much money does Scott have?

Answer = £

	3
--	---

Question 19

19a.

$$4y = 100$$

Answer =

	1
--	---

19b.

$$\frac{13 + 2x}{2} = 11$$

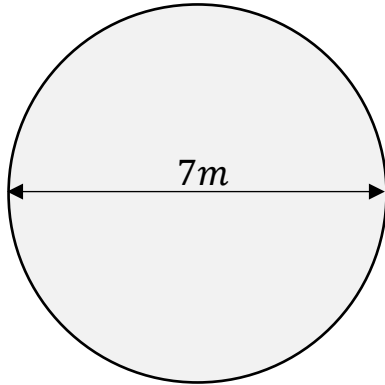
Answer =

	3
--	---

Question 20

A gardener has been asked to build a fence around a rose garden in a park.

The diameter of the space is $7m$.



Fencing is sold in $2m$ packs.

Each pack costs £195.

How much will the fencing cost the gardener?

Answer = £

	3
--	---

Question 21

40% of the counters in Ms Jay's bag are yellow.

She tells her class there are 36 yellow counters.

Show how her class could work out the total number of counters in the bag.

Answer =

.....

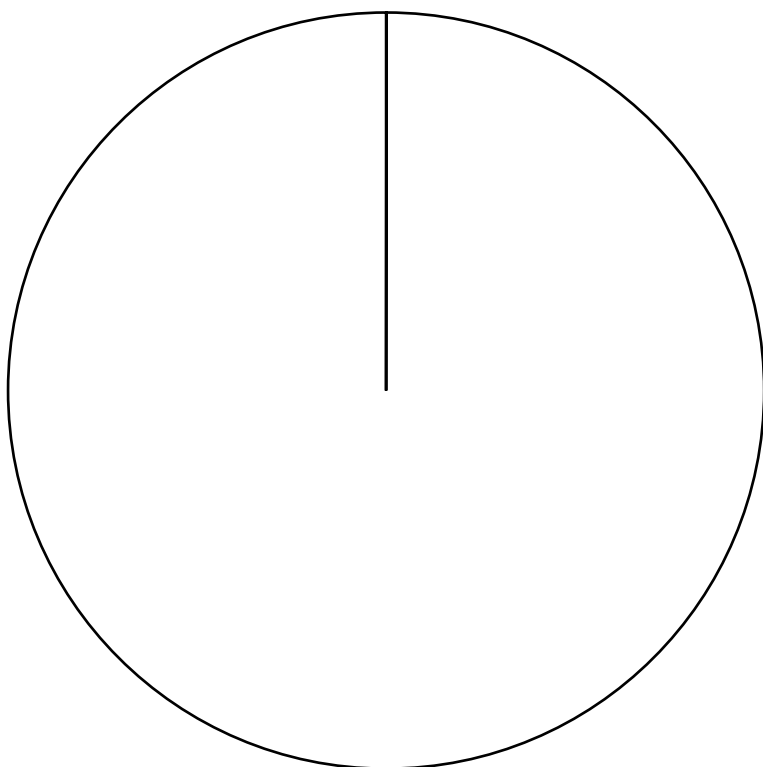
	2
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Question 22

72 Year 8 pupils were asked who their favourite footballer is.

Complete the table and the pie chart to show their answers.

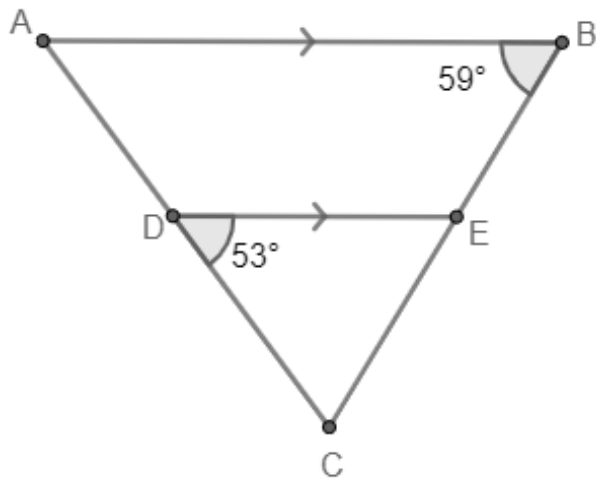
Footballer	Frequency	Degrees
Mary Earps	18	
Lionel Messi	10	50°
Harry Kane	13	
Erling Haaland	19	
Chloe Kelly	12	
	72	360°



	3
--	---

Question 23

Find angle ACB.



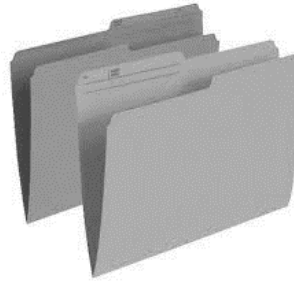
Answer = _____

	2
--	---

Question 24

Mr Doyle wants to buy 30 folders for his pupils.

He visits two shops. They both have a special offer on.



Shop A

Folders £1.29 each

Special Offer:

Buy 2 folders get 1 free

Shop B

Folders £1.75 each

Special Offer:

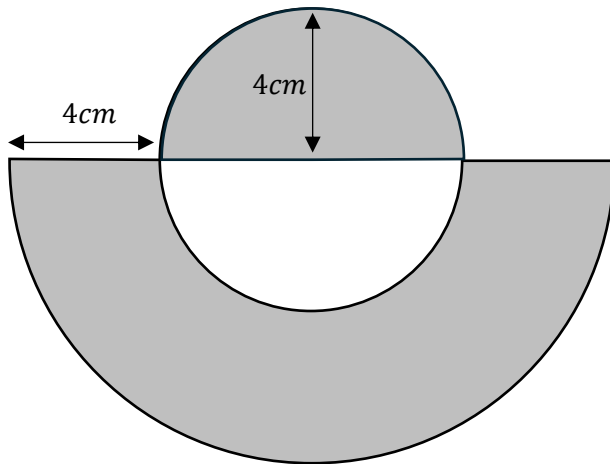
2 for 1

Which shop is better value for money?

Question 25

An image is shown below.

Work out the **total area** of the shaded sections.



Give your answer correct to 2 decimal places.

Answer = cm^2

	2
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END OF ASSESSMENT

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

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