2024 national curriculum tests

Key stage 2

Mathematics

Paper 3: reasoning

MODIFIED LARGE PRINT

First name _____

Middle name _____

Last name _____

Date of birth **Day** _____ **Month** _____ **Year** _____

School name _____

DfE number _____

Note to markers

This paper should be marked using the standard mark schemes for KS2 Mathematics: Paper 3. There is additional guidance on marking some questions in this paper in the Key stage 2 Mathematics amendments to mark schemes – MLP document.

STA/24/8819/MLe

Instructions

You must not use a calculator to answer any questions in this test.

Questions and answers

You have 40 minutes, plus your additional time allowance, to complete this test.

Follow the instructions for each question.

Work as quickly and as carefully as you can.

If you need to do working out, you can use any space on the page.

Method questions

Some questions say: 'Show your method.' For these questions, you may get a mark for showing your method.

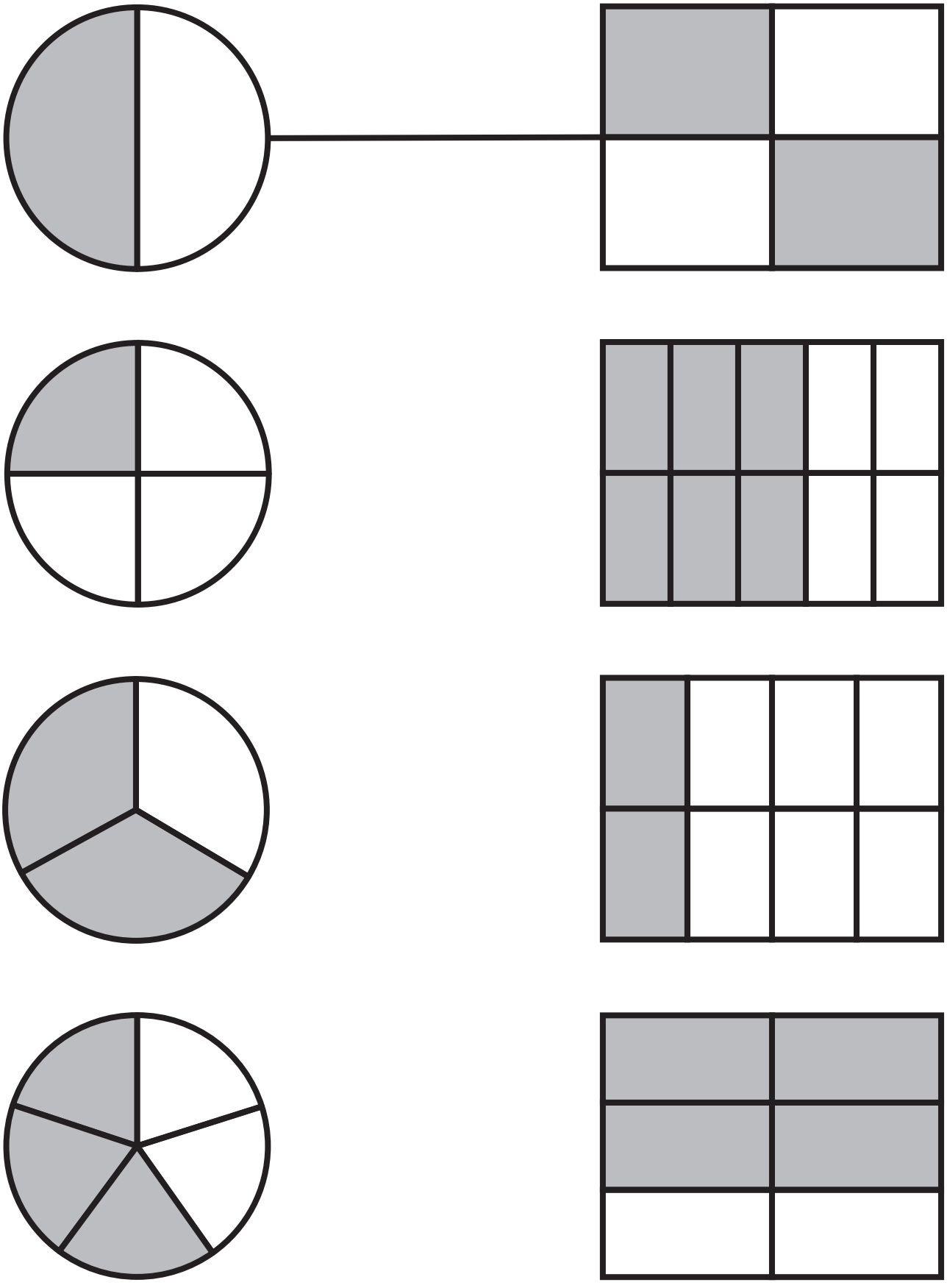
If you cannot do a question, go on to the next one. You can come back to it later, if you have time.

If you finish before the end, go back and check your work.

1. The shapes on the opposite page have a fraction shaded.

Match each shaded fraction of a circle to the same shaded fraction of a rectangle.

One has been done for you.



2. The temperature in a freezer is

$-40\,°C$

The temperature increases by $10\,°C$

What is the new temperature?

_____ °C

3. **Jack buys milk and orange juice from a shop.**

The prices are shown below.

Milk: £1·45

Orange juice: £2·40

He pays with a £5 note.

How much change does Jack get?

Show your method.

£_____

4. **The diameter of the Moon is**

3 476 kilometres.

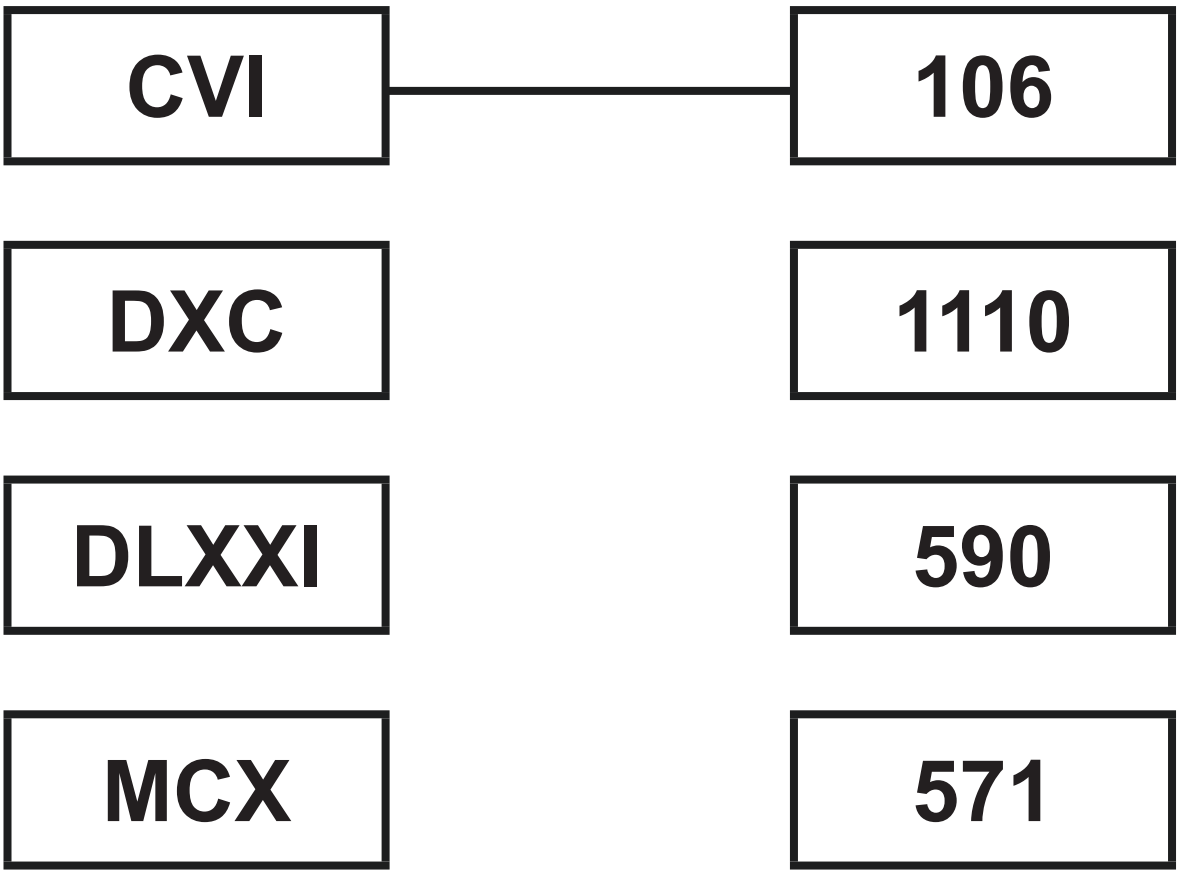
What is this diameter to the

nearest hundred kilometres?

_____ **km**

5. Match each of these Roman numerals to the correct number.

One has been done for you.



6. **Match each fraction to its equivalent simplified fraction.**

One has been done for you.

Fraction	Simplified fraction
$\frac{12}{18}$	$\frac{2}{3}$
$\frac{12}{20}$	$\frac{4}{5}$
$\frac{12}{15}$	$\frac{3}{5}$
$\frac{12}{16}$	$\frac{3}{4}$

7. Emma thinks of a number.

She multiplies it by 2

adds 11

divides by 3

Her answer is 9

What number is Emma thinking of?

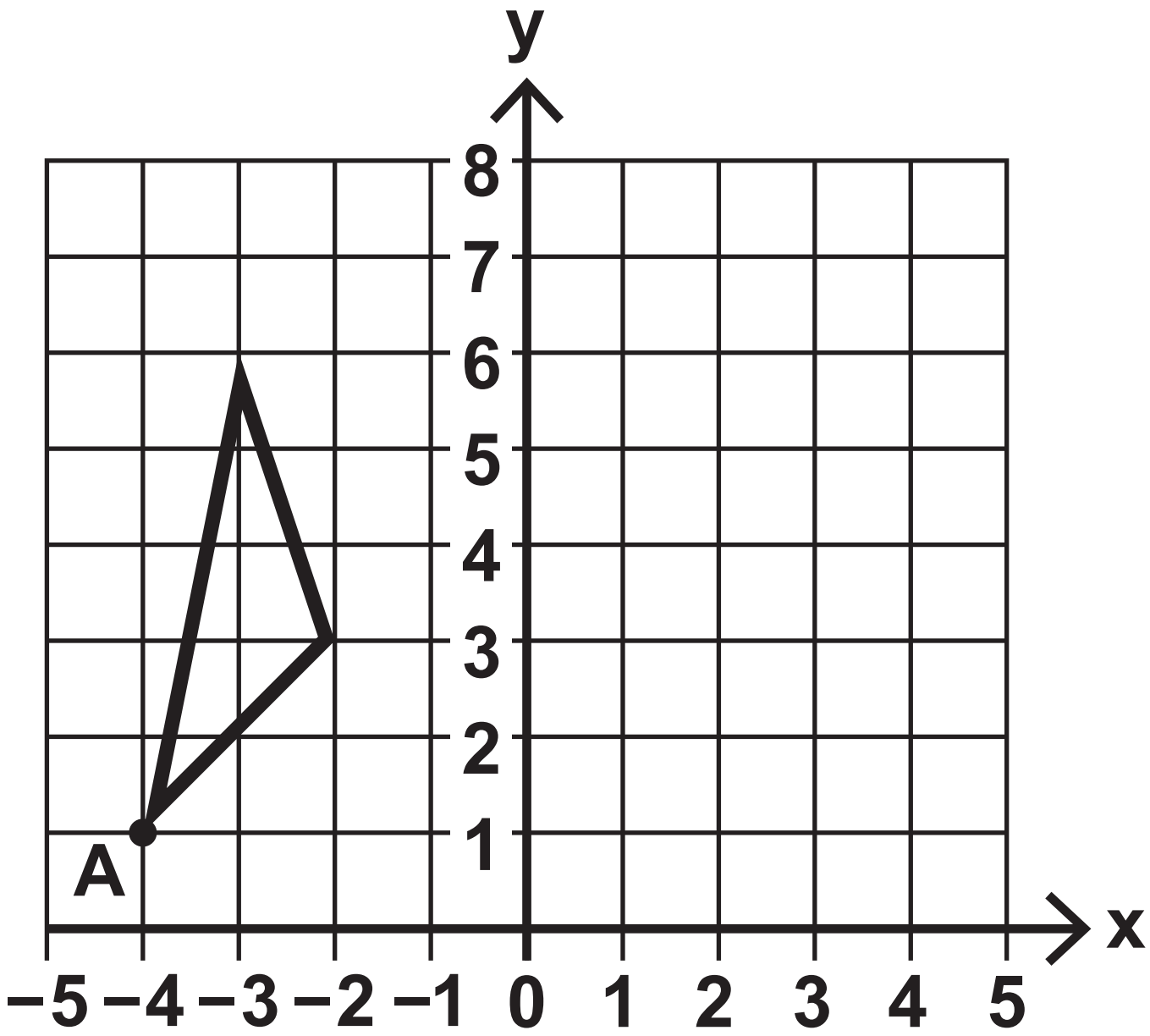
_____

8. **Look at the shape on a grid on the opposite page.**

Each square of the grid is 1 unit.

One vertex of the shape is labelled point A.

Mark point A after it has been translated 6 units to the right.


y
8
7
6
5
4
3
2
1
A
x
−5 −4 −3 −2 −1 0 1 2 3 4 5

9. **Write the missing numbers in the table below.**

Number of weeks	Number of days
1	7
2	14
4	28
6	
10	
	105

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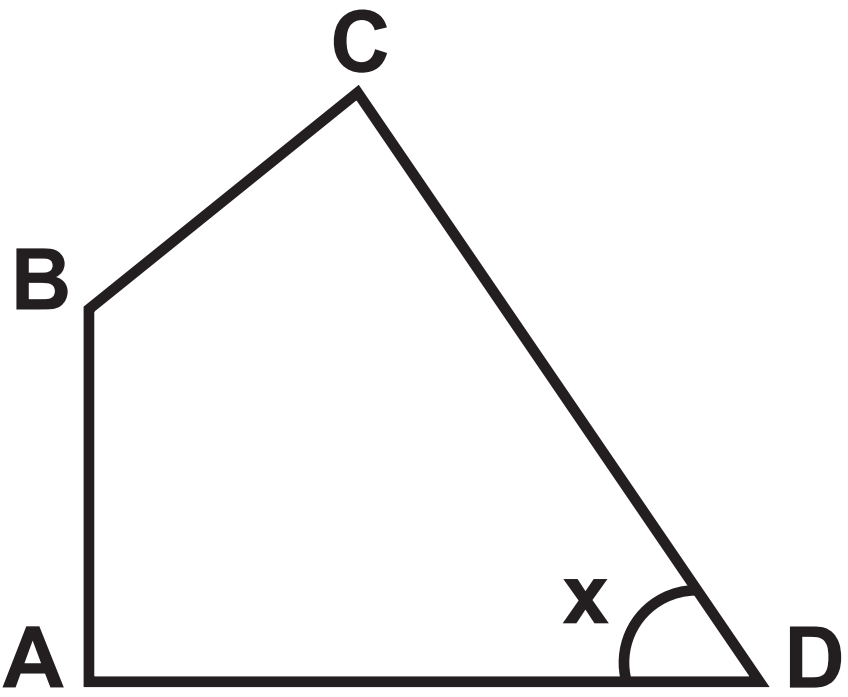
10. Look at the shape below.



(a) What is the perimeter of the shape, in millimetres?

Use a ruler.

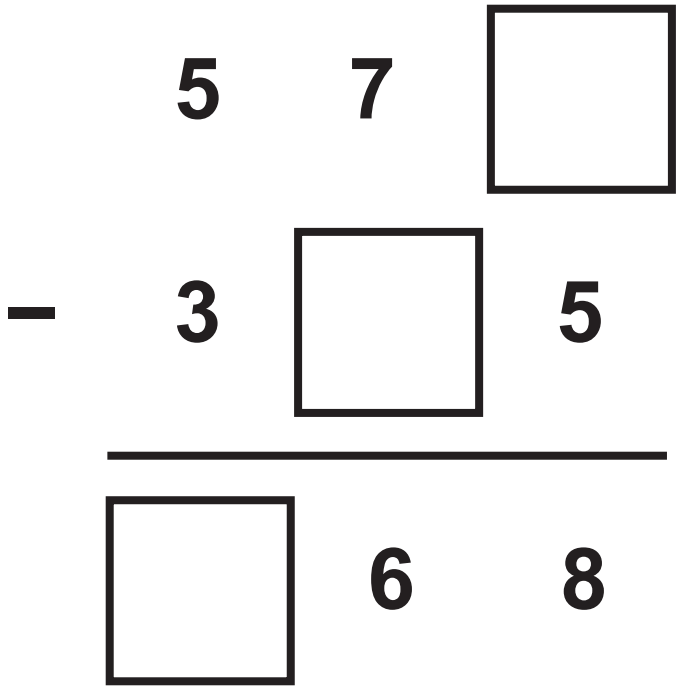
_____ mm

(b) Measure the size of angle **x**.

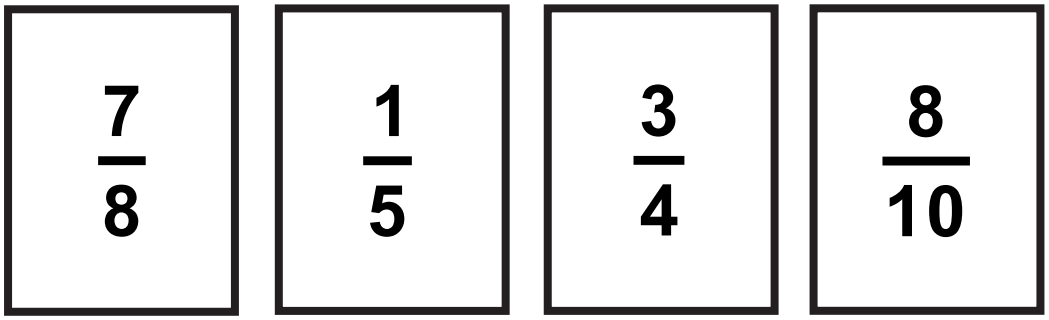
Use an angle measurer.

x is _____ °

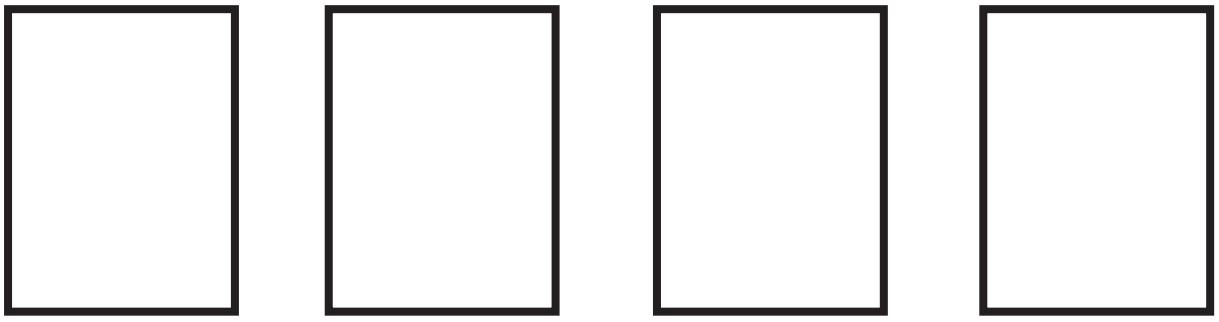
11. **Write the missing digits to make the subtraction correct.**



12. Look at the four fractions below.



Write the fractions in order starting with the least.



least

13. There are **20** boxes on a truck.

The boxes are in **4** different sizes as shown below.

8 of these boxes have a mass of **4 kg**

6 of these boxes have a mass of **2·5 kg**

4 of these boxes have a mass of **6·5 kg**

2 of these boxes have a mass of **13 kg**

What is the total mass of the 20 boxes on the truck?

Show your method.

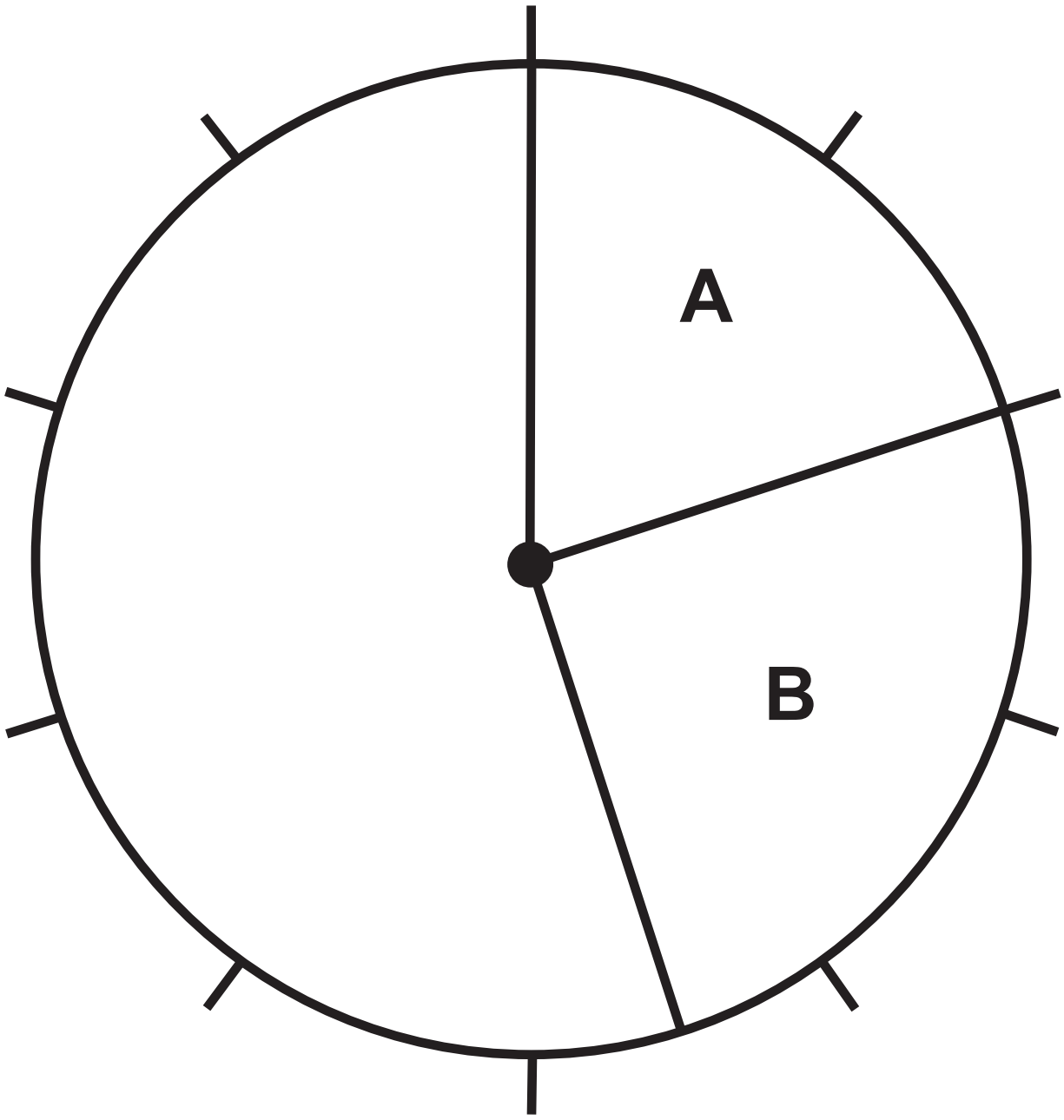
_____ **kg**

14. Look at the data in the table below.

Label	Percentage
A	20%
B	25%
C	15%
D	30%
E	10%

Using this data, draw two lines and write three labels to complete the pie chart on the opposite page.

Use a ruler.


A
B

15. **35% of the 680 pupils at a school have a pet dog.**

159 of the pupils who have a pet dog are boys.

How many of the pupils who have a pet dog are girls?

Show your method.

16. Write a number in the box to make this correct.

$$\frac{3}{5} < \frac{\square}{100} < 0{\cdot}7$$

17. Tick or mark the numbers below that are factors of both 54 and 72

2

3

4

8

9

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18. Layla wants to buy a camera that costs **£65**

For the first **10** weeks, she saves **£2** each week.

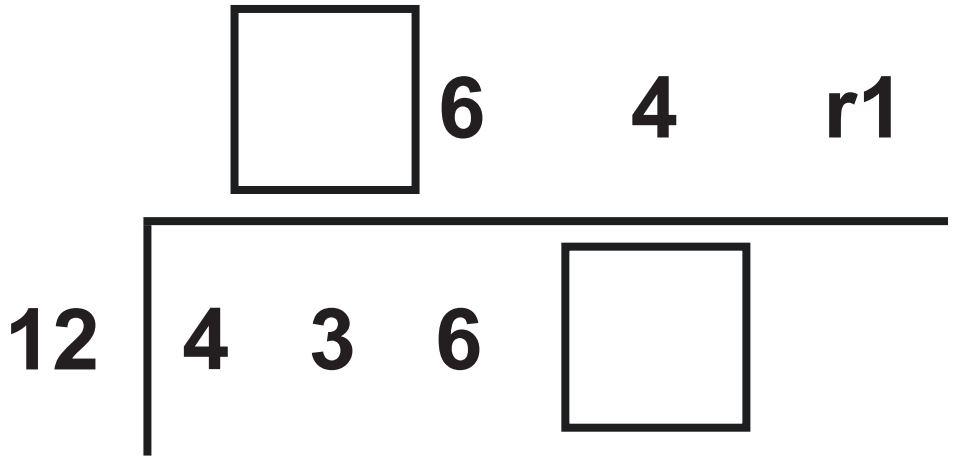
Then she saves **£3** each week.

How many weeks altogether does it take Layla to save £65?

Show your method.

_____ **weeks**

19. Complete this division.



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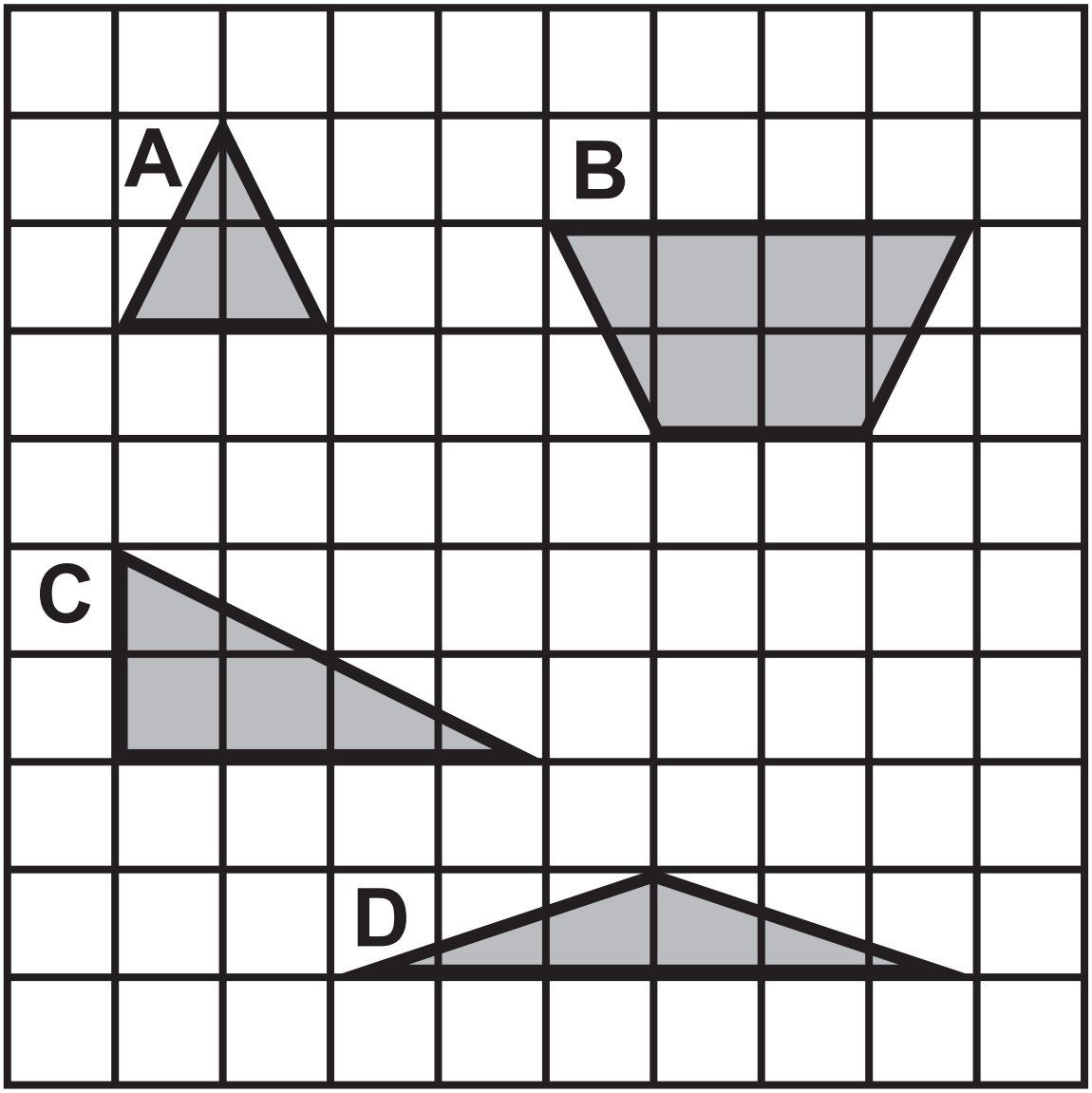
20. **Look at the four shapes on the grid on the opposite page.**

Write the letters of all the shapes that have only two acute angles.

_____


A
B
C
D

21. **A band holds a concert for charity.**

The tickets cost £27 each.

They sell 635 tickets.

They pay £3 180 to use the hall.

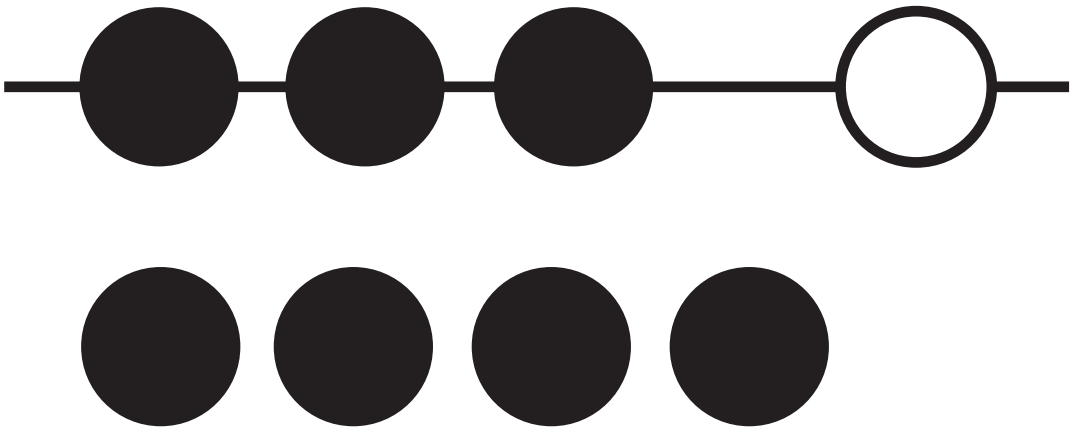
They give one–third of the remaining amount to charity.

How much money does the band give to charity?

Show your method.

£_____

22. **Sarah makes jewellery using black and white beads.**



She uses this rule to work out how many black beads to use.

$$\text{black} = (\text{white} \times 3) + 4$$

(a) Sarah uses **12** **white** beads to make a necklace.

How many black beads does she use?

_____

(b) Sarah uses **25** **black** beads to make a bracelet.

How many white beads does she use?

_____

23. **The rule to find the number of faces of any pyramid is:**

Number of sides of its base shape + 1

Use the rule to complete the table on the opposite page.

One has been done for you.

Name of 3D shape	Number of faces
Square based pyramid	5
Pentagonal based pyramid	
Octagonal based pyramid	

24. $\frac{1}{2} \times \frac{5}{6}$

is greater than the value of

$\frac{1}{3} \times \frac{7}{8}$

Explain how you know.

End of test

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