SURNAME (block capitals):
FIRST NAME:
SCHOOL:

ST GEORGE'S COLLEGE
WEYBRIDGE

11+ ENTRANCE EXAMINATION

2023-2024

MATHEMATICS

60 minutes

Read the following instructions carefully

- **Equipment allowed: Pen/pencil, ruler and rubber**
- **Write neatly and show all your working.** It may be possible to give you marks if your working makes sense, even if your final answer is wrong.
- **Correct answers using trial and error will not be accepted.**
- **Put your answer in the space provided.** If you think you have finished check that you have answered all the questions.
- **Keep an eye on the time.** Work carefully and steadily. Move on to another question if you find yourself spending too long on a question.
- **You may NOT use a calculator. You may NOT use a protractor.**

1. Write the next number in each sequence:

a) 5 10 15 20 ……..

b) 6 4 2 0 ……..

c) 10 20 40 80 ……..

d) 404,502 402,502 400,502 ……..

2. Round 27,842 to the nearest 100

Answer: ……

3. Convert 3500 grams to kilograms

Answer: ……kg

4. Convert each fraction below to a decimal in simplest form:

a) $\frac{1}{2} =$ ……

b) $\frac{3}{5} =$ ……

c) $\frac{7}{100} =$ ……

5. Work out 12% of $4000grams$

Answer: ……grams

6.

Write down the following roman numerals in figures, the first one has been completed for you:

III = 3

IX = ……

MVI =……

7.

A 24 hour clock shows the time 21:21.

How many **minutes** are there until midnight?

Answer: ……

8. Here are three mathematical symbols

$>$ $<$ $=$

Write one symbol in each box to make the statement correct:

$\frac{1}{3}$ ☐ 0.3

$\frac{42}{1000}$ ☐ 0.42

-8 ☐ -6

9. Fill in the box below:

$$8 + 4 \times 4 - \square = 8$$

10.

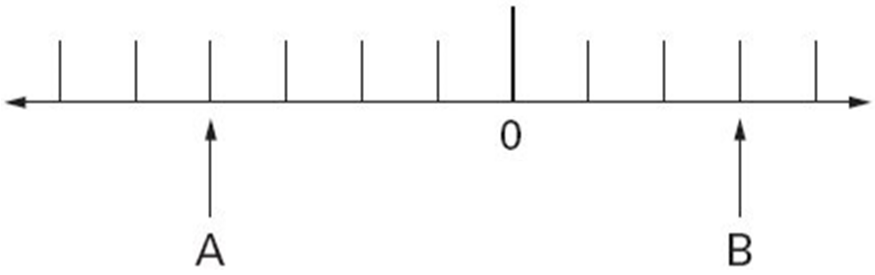
George is making flap jacks for 12 people.
The recipe uses 360g of butter.

How many grams of butter would he need if he is making the same flap jacks for 5 people?

Answer: ……g

11.

Here is a number line. A and B are two numbers.



The difference between A and B is 140

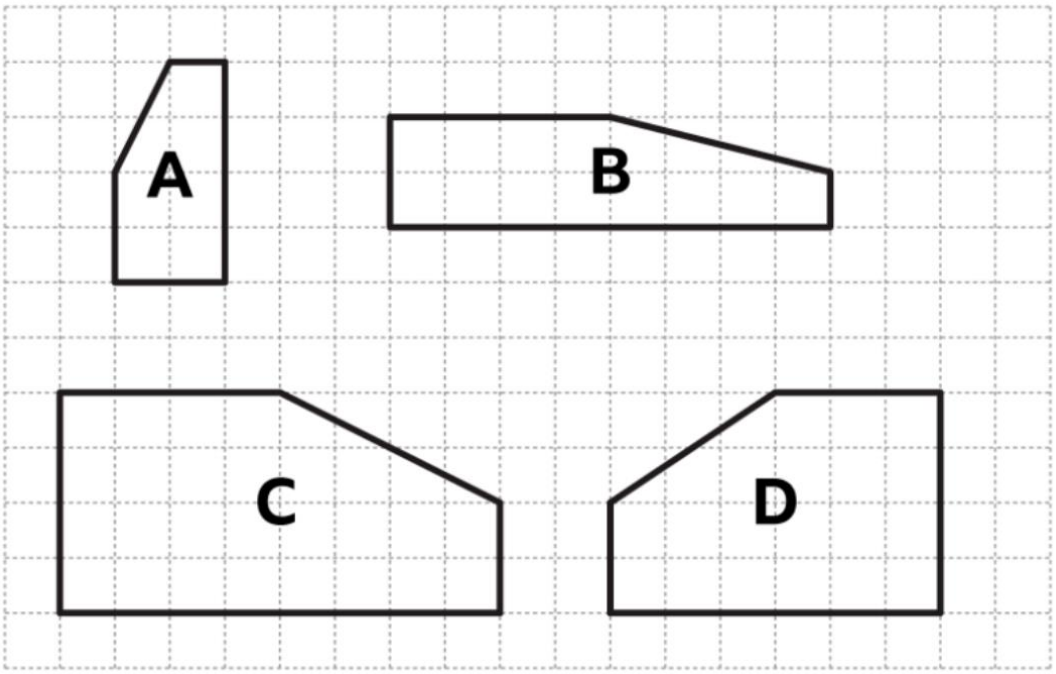
Find the values of A and B. You must show clear workings.

A= ……

B= …….

12.

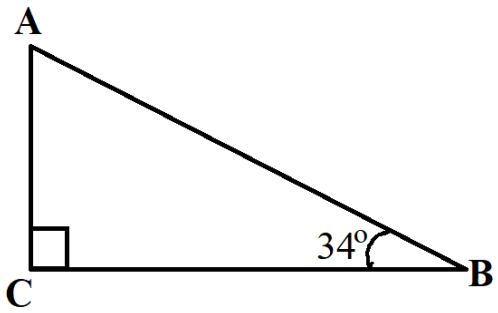
a) Look at the shapes below.



Which two shapes are mathematically similar?

Answer: ……and……

b) The triangle ABC is enlarged by scale factor 2.



What would be the size of angle B in the similar shape?

Answer: ……

13.

Complete the calculations below:

$$312 \times 100 = 10 \times \square$$

$$8.4 \times 100 = 1000 \times \square$$

$$2.5 \div 0.3 = \square \div 30$$

14.

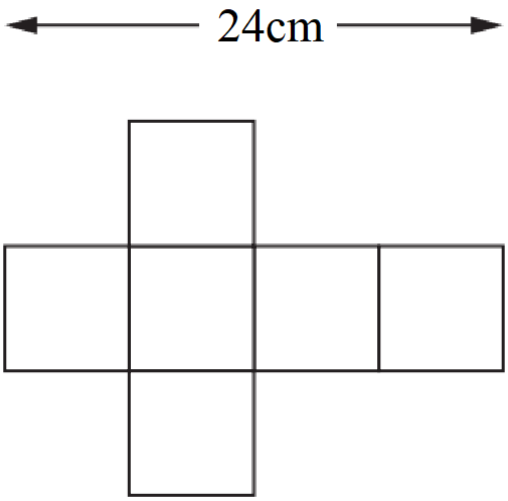
A machine pours 250 millilitres of coffee every 4 seconds.

How many **litres** of coffee does the machine pour every minute?

Answer: ……litres

15.

The diagram below shows the net of a cube



Not to Scale

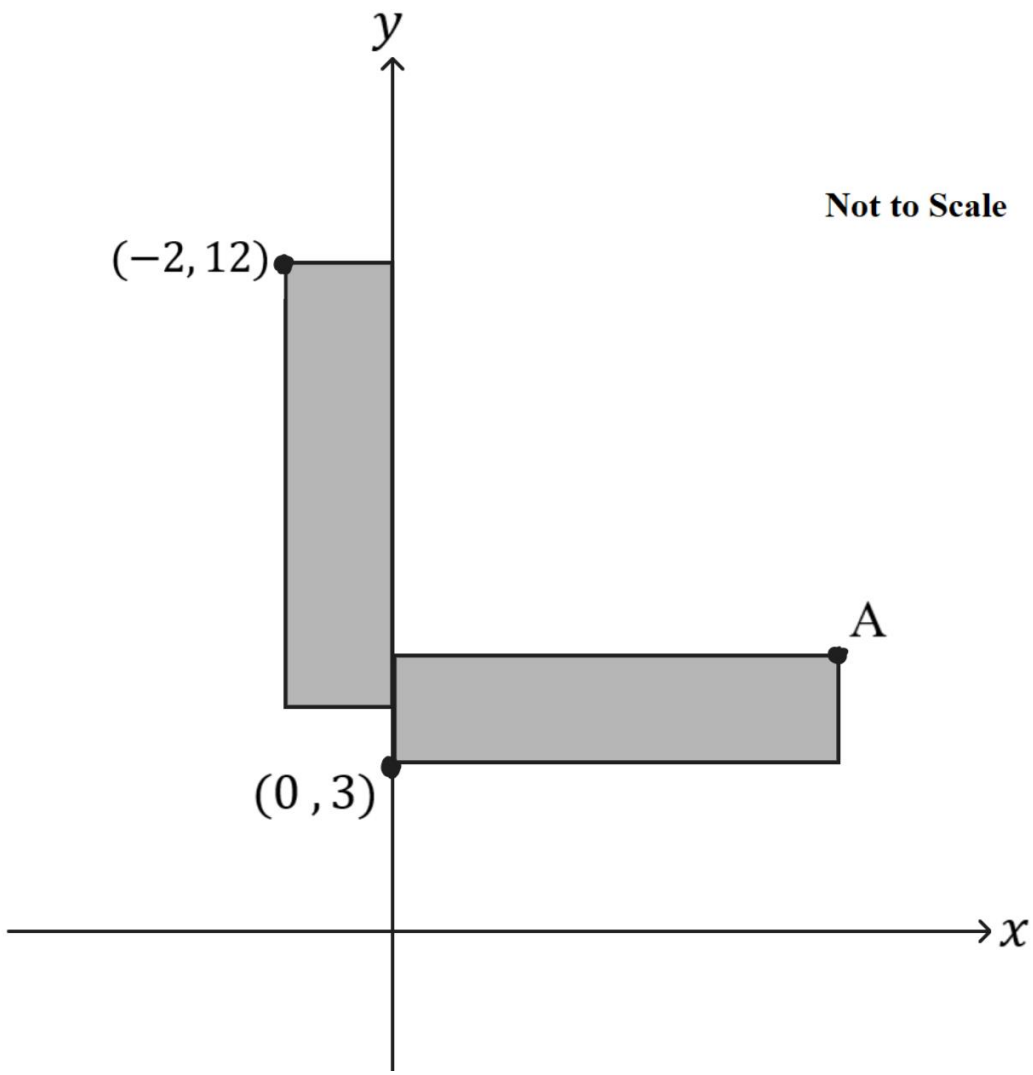
What is the volume of the cube? You must show clear workings.

Answer: ……cm^3

16.

The diagram shows two **identical** rectangles

The length of each rectangle is four times its width

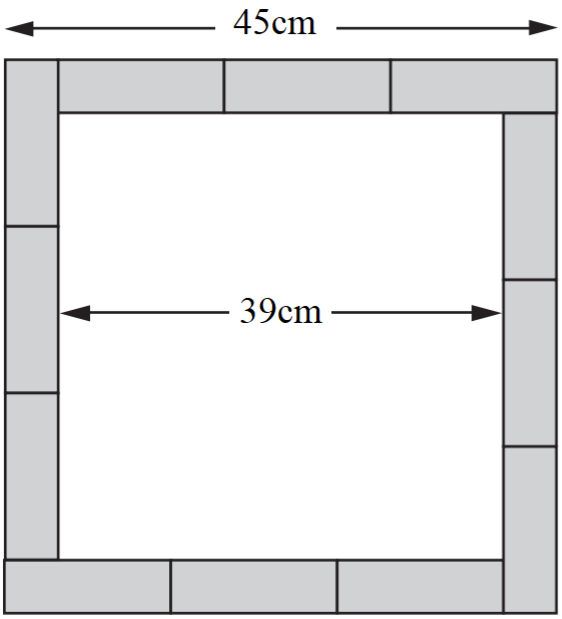


Find the coordinates of the point A

A (…… , ……)

17.

Twelve identical rectangles are arranged to make the square below:



Not to Scale

Calculate the area of one of the rectangles. You must show clear workings.

Answer: ……cm^2

18.

Charlotte wants to throw a Halloween party, for which she will need hats and brooms.

Hats are sold in packets of 30
Brooms are sold in packets of 8

A broom is needed for each hat.

What is the smallest number of packets of hats and brooms that Charlotte should buy so that there are no left over hats and brooms.

You must show clear workings.

Hats: …… packets

Brooms: ……packets

19.

Work out

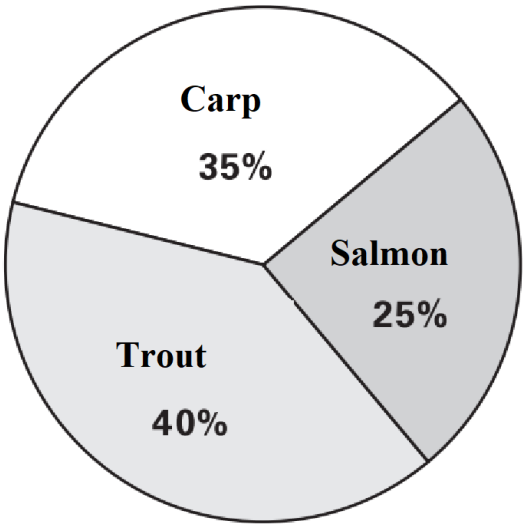
$$\frac{4 + 8 + 12 + 16 + 20 + 24 + 28 + 32 + 36}{1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9}$$

Give your answer in simplest form

Answer: ……

20.

Ben goes out fishing. The pie chart shows the type of fish he caught.



Ben caught 28 of the Carp fish.

How many of Salmon and Trout did he catch?
You must show clear workings.

Salmon: ……

Trout: ……

21.

Andy eats one third of a pizza, Bobby eats one quarter and Charlie one fifth. Diana eats the remainder. Find what fraction of the pizza Diana eats.

Give your answer as a fraction. You must show clear workings.

Answer: ……

22.

It takes 8 builders 24 days to build a house

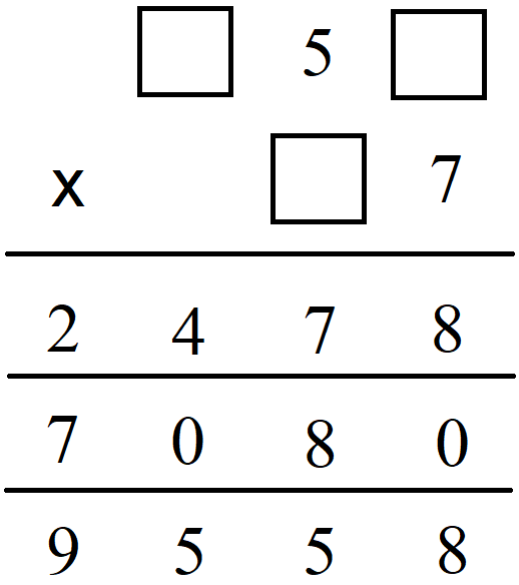
How many days would it take 3 builders to build 1 house?

Answer: …… days

23.

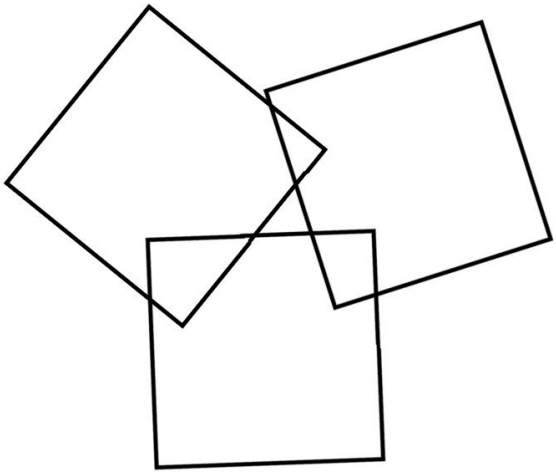
The following shows a long multiplication with some digits missing.

Fill in the blanks:



24.

Three identical squares overlap as shown



The areas of the three overlapping sections are $3cm^2$, $5cm^2$ and $8cm^2$

The total area of the non-overlapping parts of the squares is $211cm^2$

What is the length of one side of a square?

You must show clear workings.

Answer: ……cm

25.

In a group of children 80% of them like giraffes.

75% of the children who like giraffes also like elephants

In this group of children, what percentage like both girrafes and elephants?

You must show clear workings.

Answer: ……%

26.

a , b and c represent three different numbers.

The mean of a and b is 45

The mean of b and c is 42

The sum of a , b and c is 120

Calculate the values of a , b and c . You must show clear workings.

Answers:

a = ……

b= ……

c= ……

27.

The letters S, G and C represent 3 different positive digits.

(Zero is not a positive digit)

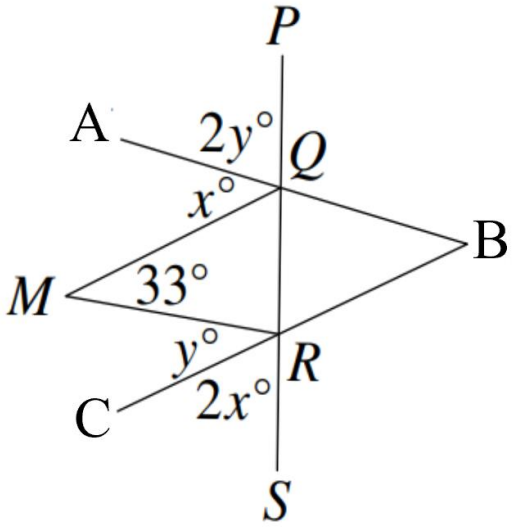
$$\begin{array}{cccc} & S & S \\ & G & G \\ + & C & C \\ \hline S & G & C \end{array}$$

Work out the digits represented by S, G and C

S= …… G= …… C= ……

28.

In the diagram below, PQRS, AQB and CRB are straight lines.



Calculate the size of the angle ABC.
You must show clear workings.

Answer: ……

END OF TEST
Now check your work carefully.