

Please write clearly in block capitals.

Centre number

Candidate number

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

Functional Skills Level 2 MATHEMATICS

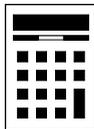
Paper 2 Calculator

Thursday 3 November 2022 Afternoon Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments.



Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.
- State the units of your answer where appropriate.

For Examiner's Use	
Question	Mark
1–8	
9	
10	
11	
12	
TOTAL	

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 60.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.
- If your calculator does not have a π button, take the value of π to be 3.142

Advice

In all calculations, show clearly how you work out your answer.



N 0 V 2 2 8 3 6 2 2 0 1

Section AAnswer **all** questions in the spaces provided.

- 1** Circle the integer. **[1 mark]**

0.5

 $\frac{1}{8}$

7

-10.2

- 2** Write 9 507 211 in words. **[1 mark]**

Answer _____

- 3** Work out 3 years to 9 months as a ratio.
Give your answer in its simplest form. **[2 marks]**

Answer _____ : _____



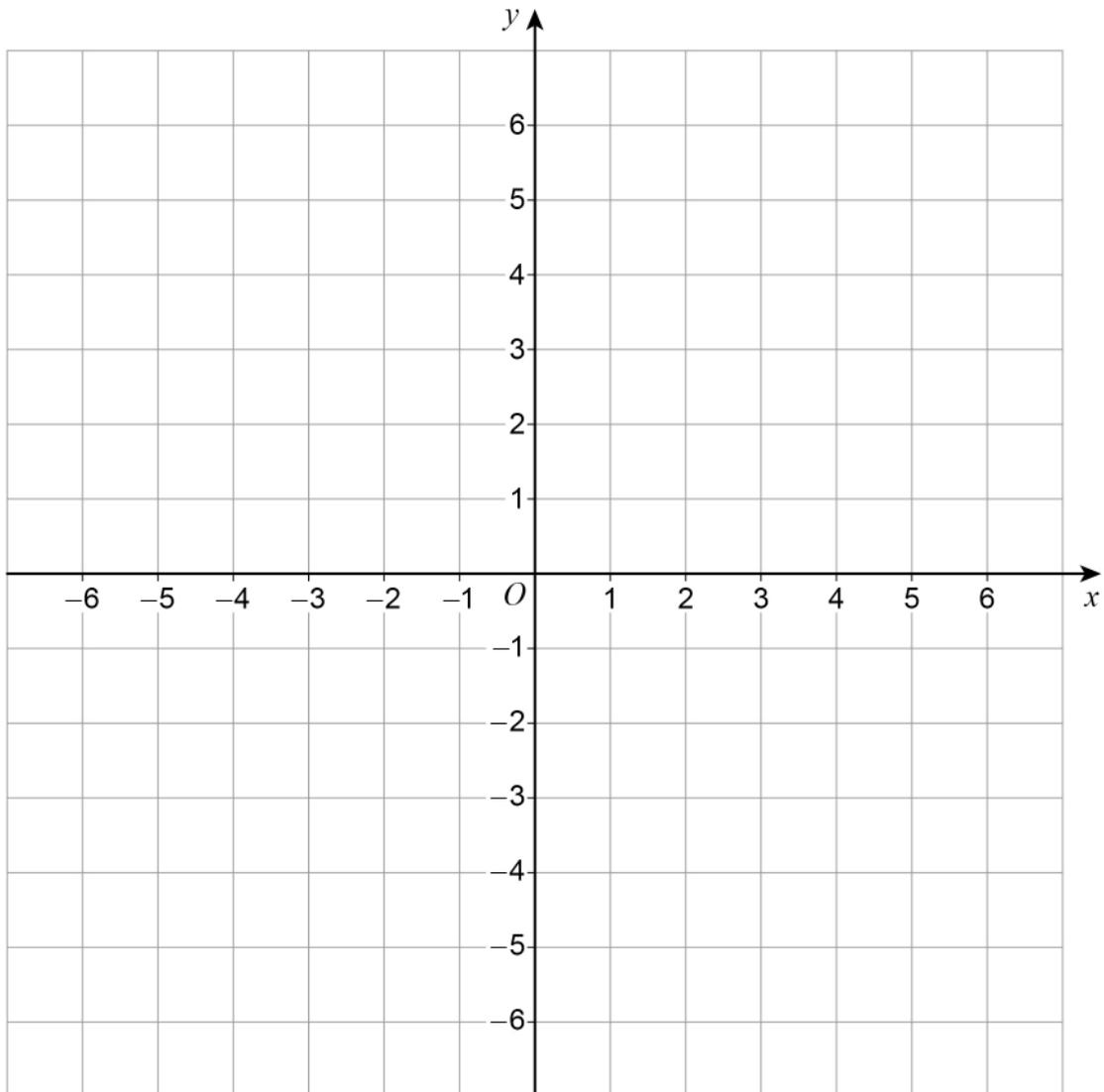
4 On the grid, plot and label the points X , Y and Z .

[2 marks]

$$X = (3, 5)$$

$$Y = (5, -3)$$

$$Z = (-3, -5)$$



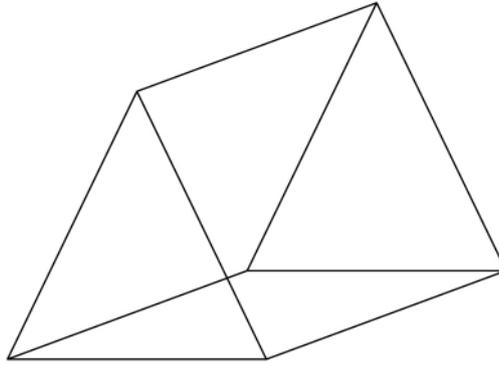
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5 Write the mathematical name of this solid shape.

[1 mark]



Answer _____

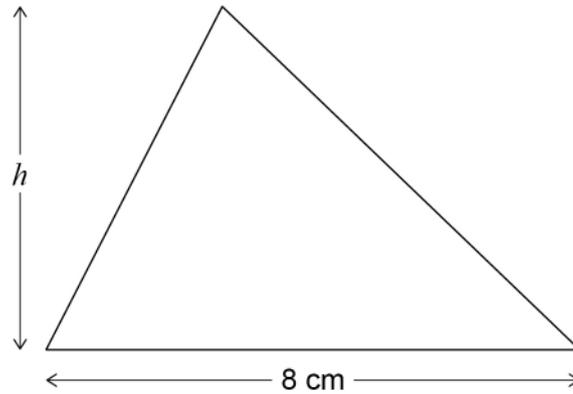
6 Calculate $2\frac{1}{5} + 1\frac{3}{4}$

[1 mark]

Answer _____



- 7 A triangle has an area of 20 cm^2
The base of the triangle is 8 cm



Work out the perpendicular height, h , of the triangle.

[2 marks]

Answer _____ cm

- 8 Calculate $2(7 + 3k)$ when $k = -1.8$

[2 marks]

Answer _____

12

Turn over ►



Section B

Answer **all** questions in the spaces provided.

9 Lorry driving

Asha is a lorry driver.

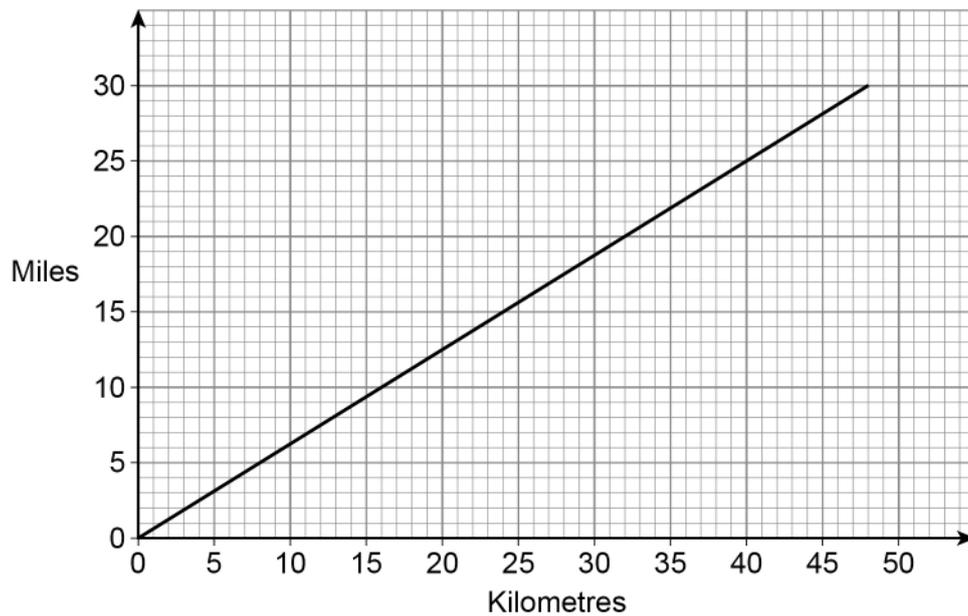
9 (a) Asha drives from Southampton to Leeds.

The journey

is 380 kilometres

takes 5 hours and 30 minutes.

The graph can be used to convert between miles and kilometres.



Asha works out that his average speed is **over** 40 mph

Is he correct?

You **must** show your working.

[4 marks]



- 9 (b)** The amount Asha is paid each week is calculated using the formula

$$P = 0.73(0.14d + 65n)$$

where

P = pay in pounds

d = distance driven in kilometres that week

n = number of days worked that week

Last week Asha worked for 5 days.

His pay for last week's work was £605.17

How many kilometres did Asha drive last week?

[4 marks]

Answer _____ kilometres

8

Turn over for the next question

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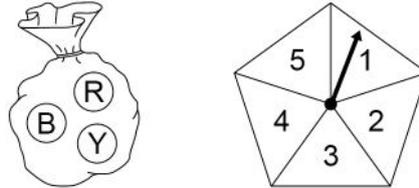
10 Fundraising

Carol is fundraising for a sports club.

10 (a) Carol designs a game.

The game uses

a bag containing a red ball, a blue ball and a yellow ball
a fair, 5-sided spinner.



The player

picks a ball at random from the bag
and
spins the spinner.

The player wins if they pick the **red** ball and the spinner lands on an **even** number.

Carol says,

“The chance of winning is **more than** 10%”

Is she correct?

You **must** show your working.

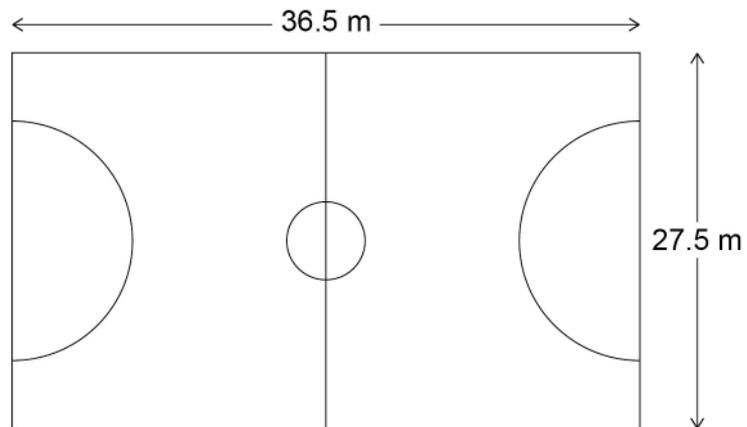
[4 marks]



10 (b) The club wants to use some of the money to paint the lines on a mini football pitch.

The lines to be painted are

- the four sides of a rectangle measuring 27.5 m by 36.5 m
- a halfway line measuring 27.5 m
- a centre circle with a radius of 1.5 m
- two semicircles, each with a radius of 8 m



Not drawn
accurately

It costs £3.25 per metre to paint the lines.

In total, how much will it cost to paint all the lines?

[6 marks]

Answer £ _____

Turn over ►



11 (b) Suzi uses a 15% discount voucher when she buys the tubs of ice cream.
She pays £76.50 after the discount.

Suzi says,

“I save **less than** £14 by using the discount voucher.”

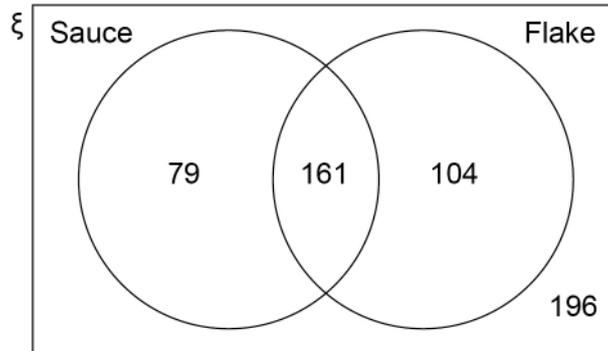
Show working to support this statement.

[3 marks]



- 11 (c)** Suzi sells two ice cream toppings, sauce and flake.
She hopes that the probability that a customer, picked at random, buys **at least one** topping will be more than $\frac{7}{10}$

The Venn diagram shows what toppings the customers buy over one weekend.



Over this weekend, does Suzi achieve the probability she hopes to get?

You **must** show your working.

[3 marks]

11

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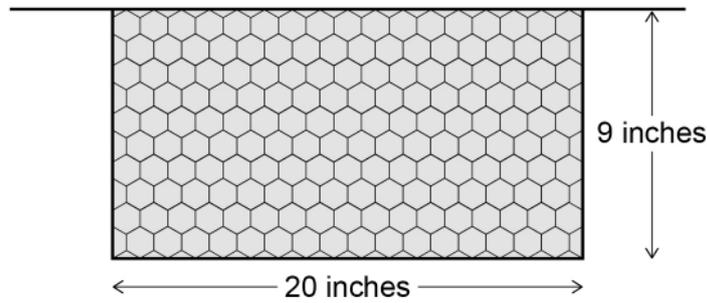


12 Bees

Mary keeps bees and sells the honey they produce.

12 (a) The bees live in a beehive.

Mary's beehive holds rectangular frames full of honeycomb.



Not drawn
accurately

Each frame measures 9 inches by 20 inches.

The beehive holds 8 frames.

Mary cuts the honeycomb into rectangular pieces measuring 11 cm by 7.5 cm

Work out the maximum number of pieces that Mary can get from her **beehive**.

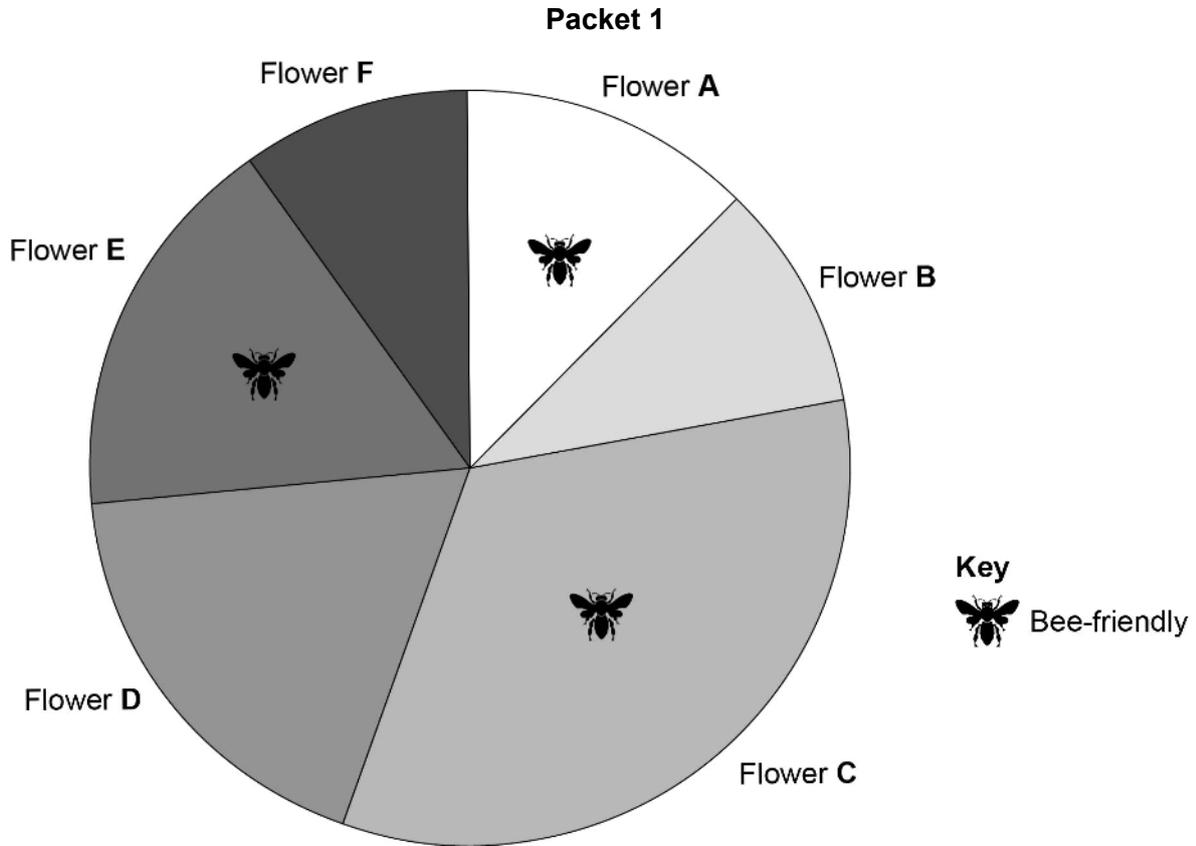
Use 1 inch = 2.5 cm

[5 marks]

Answer _____



12 (b) Mary wants to grow some bee-friendly flowers.
She finds information about the different flowers produced from two packets of seeds.



Two thirds of the seeds in **Packet 2** produce bee-friendly flowers.
Mary wants to buy the packet producing the greater proportion of bee-friendly flowers.

Which packet should she buy?
You **must** show your working.

[4 marks]

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outside the
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ANSWER IN THE SPACES PROVIDED**



