

Please write clearly in block capitals.

Centre number

Candidate number

Surname

Forename(s)

Candidate signature

I declare this is my own work.

INTERNATIONAL GCSE

MATHEMATICS

Core Tier Paper 1C

C

Thursday 16 May 2024

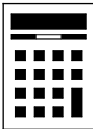
07:00 GMT

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.
- Fill in the boxes at the top of this page.
- 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.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- 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

Show all necessary working; otherwise marks for method may be lost.

For Examiner's Use	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
16–17	
18–19	
20–21	
22–23	
24–25	
TOTAL	

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

- 1 (a)** Write the number six hundred thousand and five in digits.

[1 mark]

Answer _____

- 1 (b)** Write the number 17 150 to the nearest hundred.

[1 mark]

Answer _____

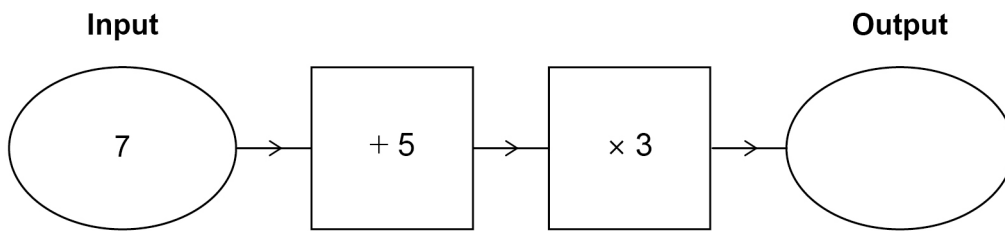
- 1 (c)** Write the value of the digit 3 in the number 13 840

[1 mark]

Answer _____



- 2 (a)** Here is a number machine with input 7

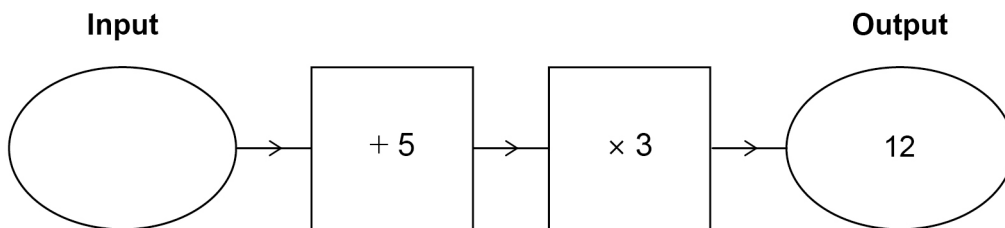


Work out the **output**.

[1 mark]

Answer _____

- 2 (b)** Here is the same number machine with output 12



Work out the **input**.

[2 marks]

Answer _____



- 3 The table shows the costs of some items.

	Cost (\$)
1 cheese sandwich	2.50
1 tuna sandwich	2.95
1 salad sandwich	2.75
3 bottles of water	

The total cost of all the items is \$13.45

Work out the cost of **one** bottle of water.

[3 marks]

Answer \$ _____



4 Here is a list of shapes.

kite parallelogram pentagon rhombus

4 (a) Write down the shape that has the most sides.

[1 mark]

Answer _____

4 (b) Which of the shapes **always** has sides of equal length?

[1 mark]

Answer _____

5 Complete the table using the numbers

24 49 55 64

[2 marks]

	Square number	Not a square number
Even number		
Odd number		



6

Write a number in each box to make the calculations correct.

[4 marks]

$$0.55 + 0.06 + \boxed{} = 3.8$$

$$3 - \boxed{} = 5$$

$$\frac{9}{100} \times \boxed{} = \frac{9}{10}$$

$$\boxed{} \div \frac{1}{2} = 1$$



7

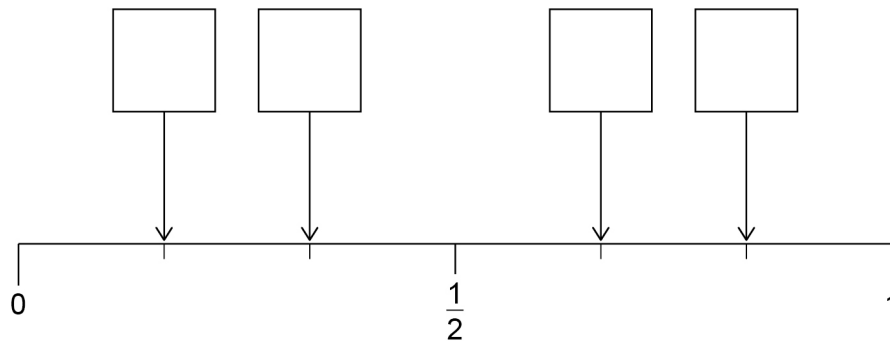
A, B, C and D are four events.

D is the least likely event.

The probability of A is twice the probability of C.

Put the correct event into each box on the probability scale.

[2 marks]



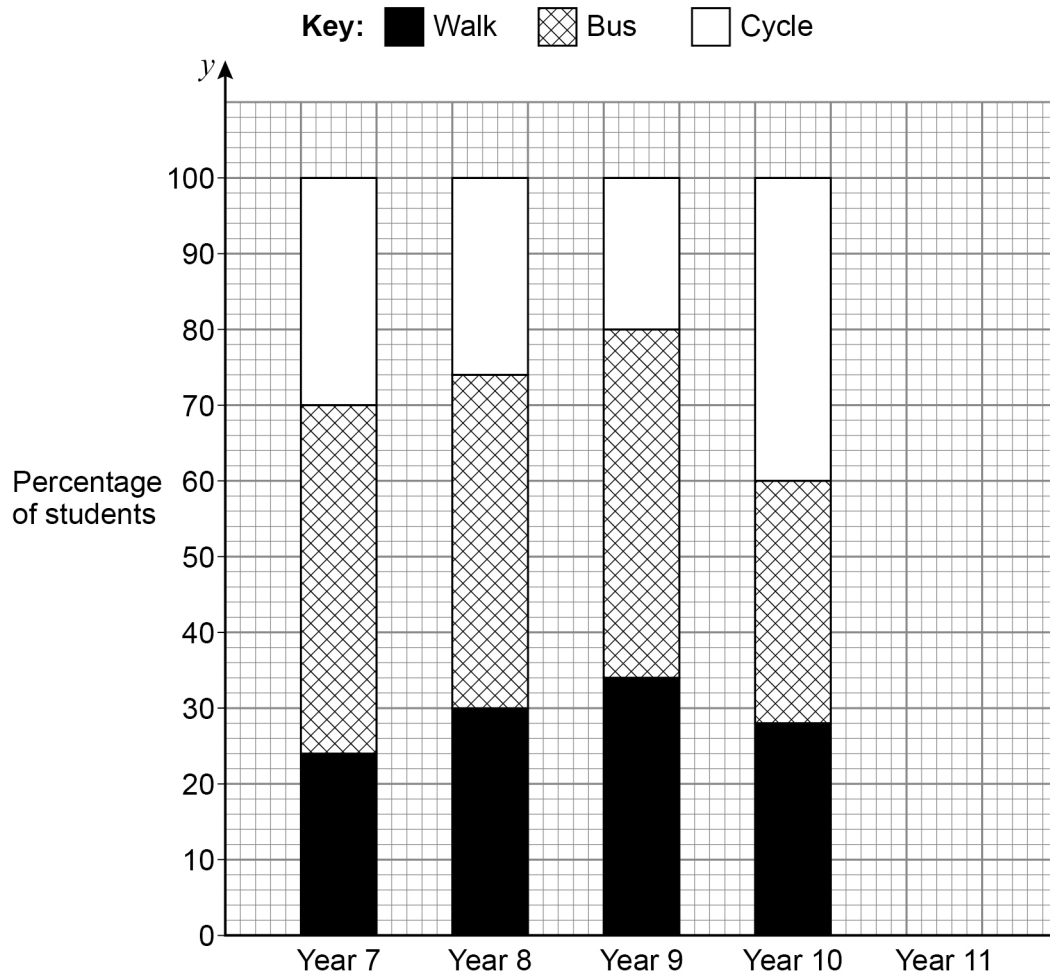
Turn over for the next question

Turn over ►



8

The composite bar chart represents how students in Years 7 to 10 travel to school.



8 (a) Which of Years 7 to 10 has the largest percentage of students who walk to school?

[1 mark]

Answer _____



8 (b) There are 450 students in Year 10

How many students in Year 10 walk to school?

[2 marks]

Answer _____

8 (c) In Year 11,

30% of the students walk to school

$\frac{1}{4}$ of the students take the bus to school

the rest of the students cycle to school.

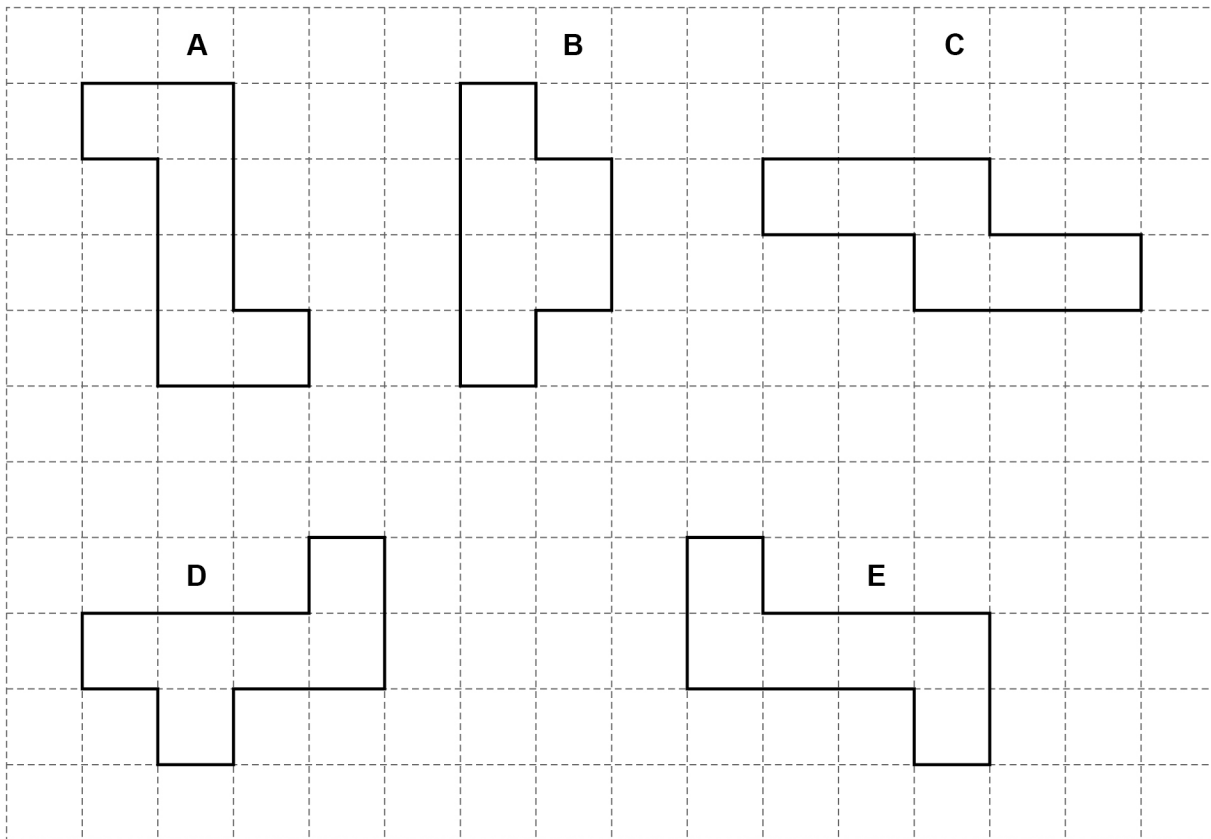
Complete the bar chart for Year 11

[3 marks]

Turn over for the next question



9 Here are some shapes.



9 (a) Which has the bigger **perimeter**, shape **A** or shape **B**?

You **must** show the lengths of both perimeters.

[2 marks]

Answer _____



9 (b) Which shape is congruent to shape **A**?

[1 mark]

Answer _____

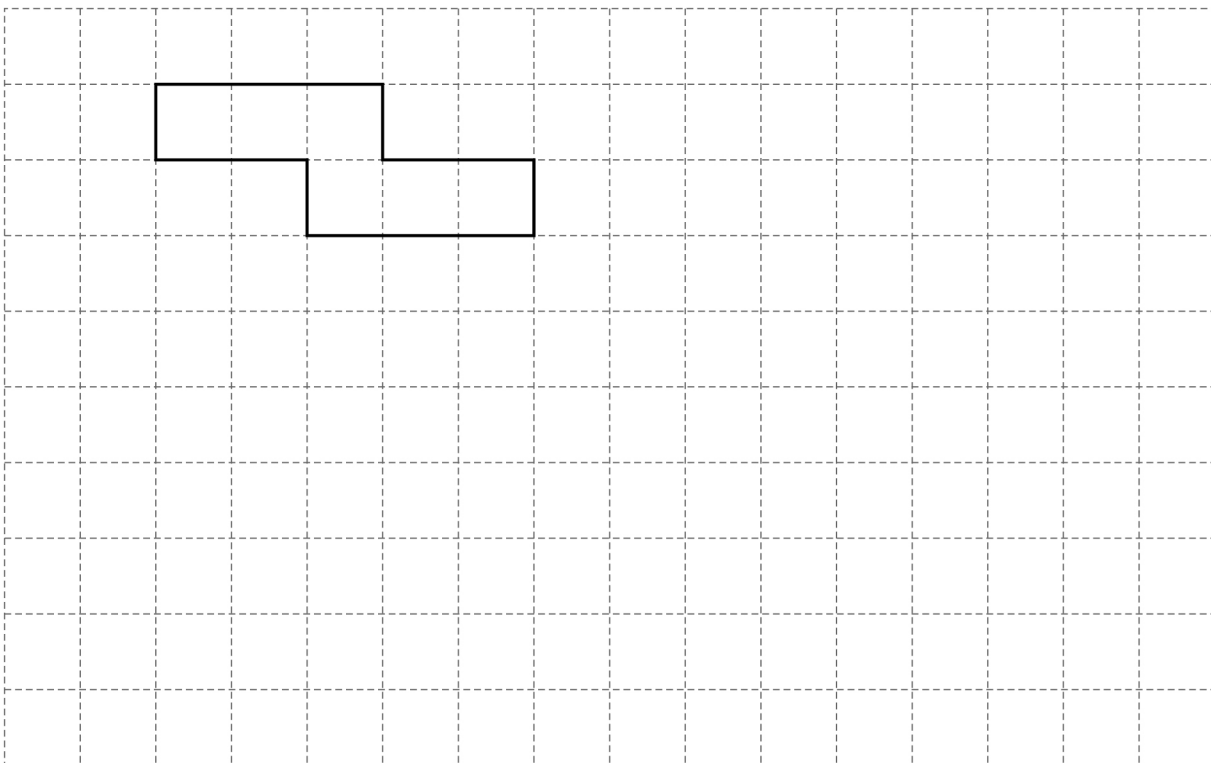
9 (c) Which shape is **not** the net of a cube?

[1 mark]

Answer _____

9 (d) On this grid, draw a reflection of shape **C**.
You **must** show your mirror line.

[2 marks]



10 (a) Write down a **decimal** with a value

greater than $\frac{1}{4}$

and

less than $\frac{4}{10}$

[1 mark]

Answer _____

10 (b) Write down a **fraction** with a value

greater than 0.6

and

less than 0.75

[1 mark]

Answer _____

10 (c) Circle the improper fraction.

[1 mark]

$$-\frac{5}{7}$$

$$\frac{1}{7}$$

$$1\frac{2}{9}$$

$$\frac{11}{9}$$



11 (a) Simplify fully $5y + 6 - 3y + 7$

[2 marks]

Answer _____

11 (b) Simplify fully $10x \div 5x$

[1 mark]

Answer _____

11 (c) Factorise $21c - 24d$

[1 mark]

Answer _____

Turn over for the next question

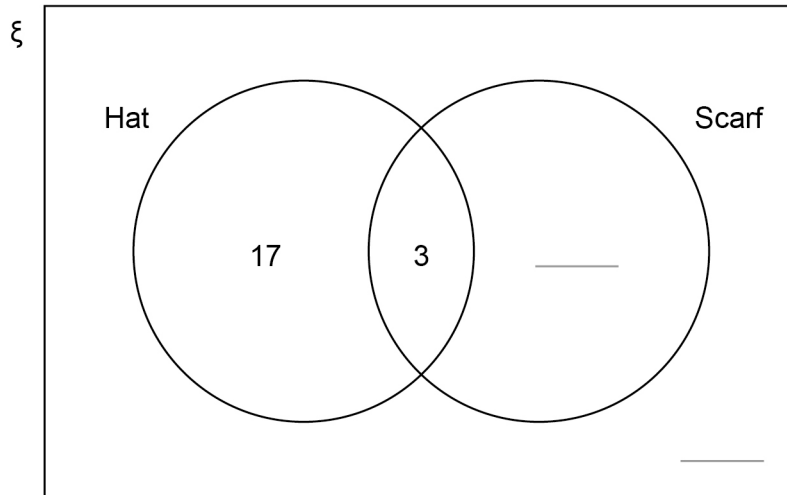
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- 12** 50 people are in a park.
9 of the people are wearing a scarf.

12 (a) Complete the Venn diagram to represent the people in the park.

[2 marks]



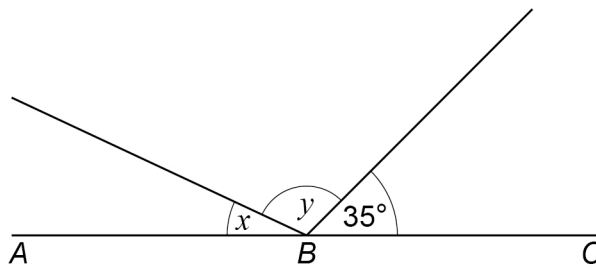
- 12 (b)** A person in the park is chosen at random.
Work out the probability that the person is wearing a hat.

[2 marks]

Answer _____



13

Not drawn
accurately

ABC is a straight line.

$$x : y = 1 : 4$$

Work out the size of angle y .

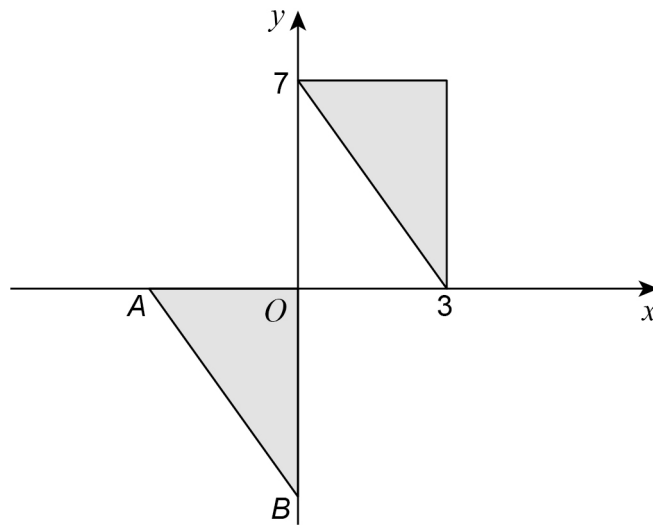
[3 marks]

$$y = \underline{\hspace{4cm}}^{\circ}$$

Turn over for the next question**Turn over ►**

14

The sketch shows a right-angled triangle that has been translated.



Write down the coordinates of point A and point B .

[2 marks]

A (_____ , _____) B (_____ , _____)



- 15** A bag contains counters that are red, green, blue or yellow.
The table shows the probability of choosing a counter of each colour at random.

Colour	red	green	blue	yellow
Probability	$\frac{2}{5}$	$\frac{1}{5}$	$\frac{1}{4}$	p

- 15 (a)** Work out the probability of choosing a red counter or a green counter.

[1 mark]

Answer _____

- 15 (b)** Work out the value of p .

[2 marks]

$p =$ _____

- 15 (c)** 100 of the counters are blue.
How many of the counters are green?

[2 marks]

Answer _____



16 Here is a list of units.

m/s m/s² m/s³ kg/m kg/m² kg/m³

16 (a) Write down the unit of speed.

[1 mark]

Answer _____

16 (b) Write down the unit of density.

[1 mark]

Answer _____

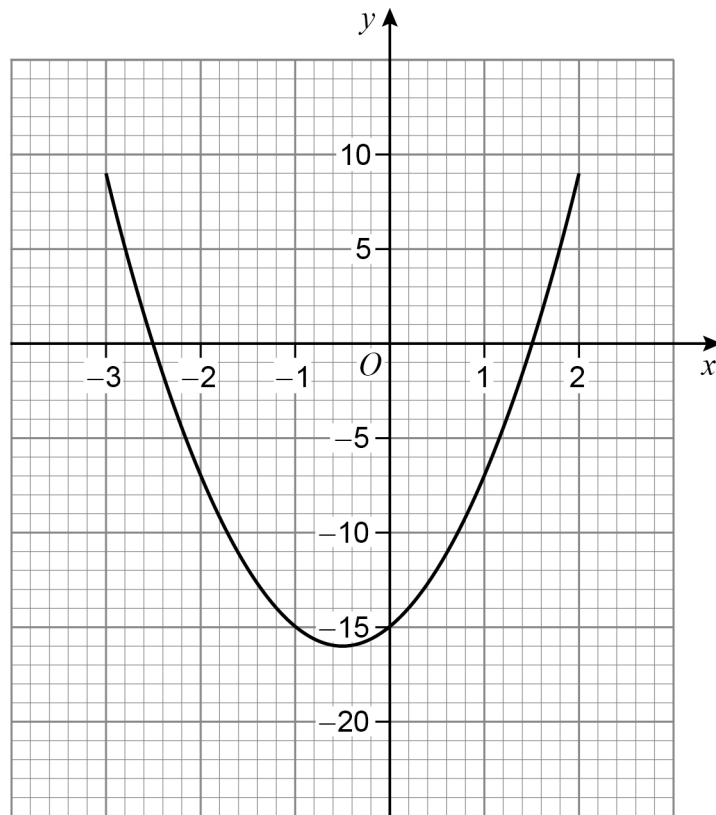
17 The **area** of a circle in cm² is $\frac{81}{16}\pi$
Work out the **diameter**.

[2 marks]

Answer _____ cm



- 18 Here is the graph of $y = 4x^2 + 4x - 15$ for values of x from -3 to 2



Use the graph to estimate the **two** solutions to $4x^2 + 4x - 15 = 0$

[2 marks]

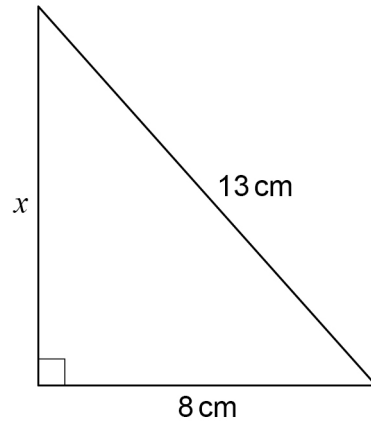
$x =$ _____ $x =$ _____

Turn over for the next question

Turn over ►



19

Not drawn
accurately

Use Pythagoras' theorem to work out the value of x .

Give your answer as a decimal.

[3 marks]

 $x =$ _____ cm

[3 marks]

$$x - y = 6$$

[illegible]

$x =$ _____ $y =$ _____

6

- 21** A group of 8 people has a mean mass of 75 kg
A 9th person joins the group and the mean mass increases by 2 kg
Work out the mass of the 9th person.

[3 marks]

Answer _____ kg

- 22** For company A and company B, the **total** cost of a taxi journey is
a fixed cost
and
a cost per kilometre.

- 22 (a)** Company A uses this formula to work out the total cost, $\$C$, of a journey of d kilometres.

$$C = \frac{14 + 5d}{4}$$

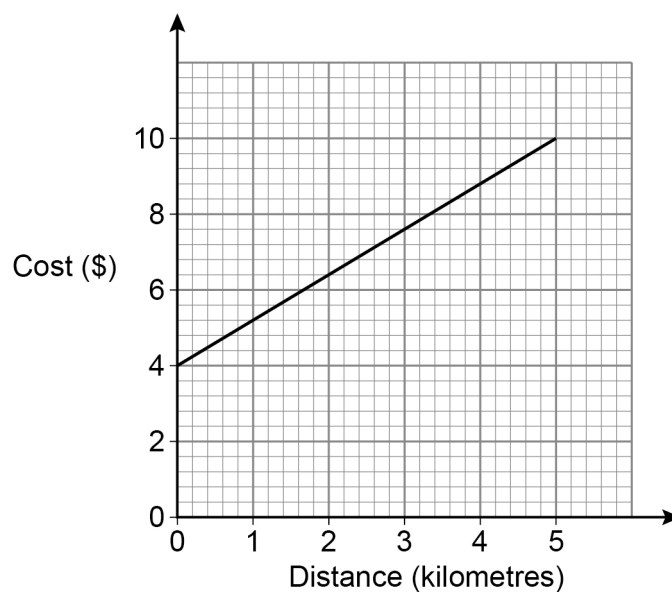
Complete the following statement for company A.

[2 marks]

The fixed cost is \$ _____ and the cost per kilometre is \$ _____



- 22 (b)** The costs of journeys up to 5 kilometres with company B are represented by the graph.



Work out the cost of a journey of 12 kilometres with company B.

[3 marks]

Answer \$ _____

Turn over for the next question



23 (a) Solve $2(x - 7) \leq 30$

[2 marks]

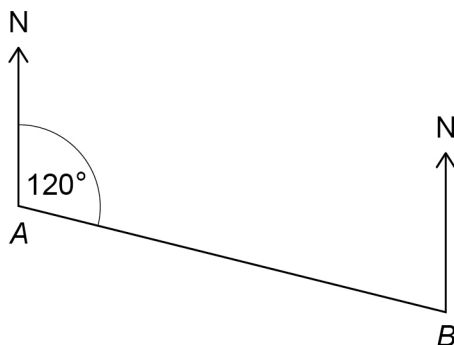
Answer _____

23 (b) Work out the **integer** solutions to $-9 < 3y \leq 6$

[2 marks]

Answer _____

24



Not drawn
accurately

Work out the bearing of A from B.

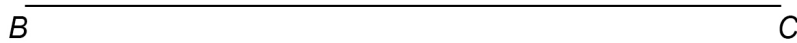
[2 marks]

Answer _____ °



25

Using ruler and compasses, construct angle $ABC = 60^\circ$
 BC has been drawn for you.

[2 marks]**END OF QUESTIONS**

There are no questions printed on this page

*Do not write
outside the
box*

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



[illegible]

[illegible]