AQA

PRACTICE PAPER SET 3

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

GCSE MATHEMATICS

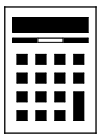
F

Foundation Tier Paper 3 Calculator

Date of Exam Morning 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.
- 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.

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

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

1 Solve $3x = 12$

Circle your answer.

[1 mark]

$x = 4$ $x = 9$ $x = 15$ $x = 36$

2 Circle the ratio which is the same as the scale 1 cm represents 2 m

[1 mark]

1 : 2 1 : 20 1 : 200 1 : 2000

3 Work out $\frac{3}{7} \times 2$

Circle your answer.

[1 mark]

$\frac{6}{14}$ $\frac{6}{7}$ $\frac{3}{14}$ $\frac{9}{49}$

4 An ordinary fair dice is thrown.

Circle the probability of getting a number greater than 4

[1 mark]

$\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{2}$

5 (a) Work out $\sqrt[3]{4096}$

[1 mark]

Answer _____

5 (b) Work out 3^7

[1 mark]

Answer _____

Turn over for the next question

6 Gino opens a pizza restaurant.

The frequency table shows information about the first 20 pizzas he sells.

Pizza	Frequency
Margherita	5
Pepperoni	8
Salami	3
Vegetable	4
	Total = 20

6 (a) Complete the pictogram, including your key.

[3 marks]

Key: ◯ represents _____ pizzas

Margherita	
Pepperoni	
Salami	
Vegetable	

6 (b) What percentage of the 20 pizzas were **Pepperoni**?

[2 marks]

Answer _____ %

6 (c) At the restaurant, Ruth orders

food for £13.50

drink for £2.40

She uses this voucher.

$\frac{1}{3}$ OFF THE PRICE OF FOOD

(Does **not** include drinks)

After the voucher has been used, 15% service charge is added.

Work out the final bill.

[5 marks]

Answer £ _____

7 (a) 2 tubs of ice cream cost £5.90

How much would 5 of these tubs cost?

[2 marks]

Answer £ _____

7 (b) A factory makes 8000 tubs of ice cream.
Each tub contains 500 **millilitres**.

How many **litres** of ice cream does the factory make?

[2 marks]

Answer _____ litres

8 Zoe's password is made up of four **different** digits.

She remembers it as two 2-digit numbers.

The first 2-digit number is a prime number between 10 and 20

The second 2-digit number is a prime number between 20 and 30

List **all** her possible passwords.

[3 marks]

Answer

Turn over for the next question

9 A house is being built.

8400 bricks will be laid.

Three bricklayers will

each lay 350 bricks per day

each be paid £115 per day.

How much **in total** will they be paid?

[3 marks]

Answer £ _____

10 (a) Work out the highest common factor (HCF) of 15 and 20

[1 mark]

Answer _____

10 (b) Work out the lowest common multiple (LCM) of 6 and 8

[2 marks]

Answer _____

Turn over for the next question

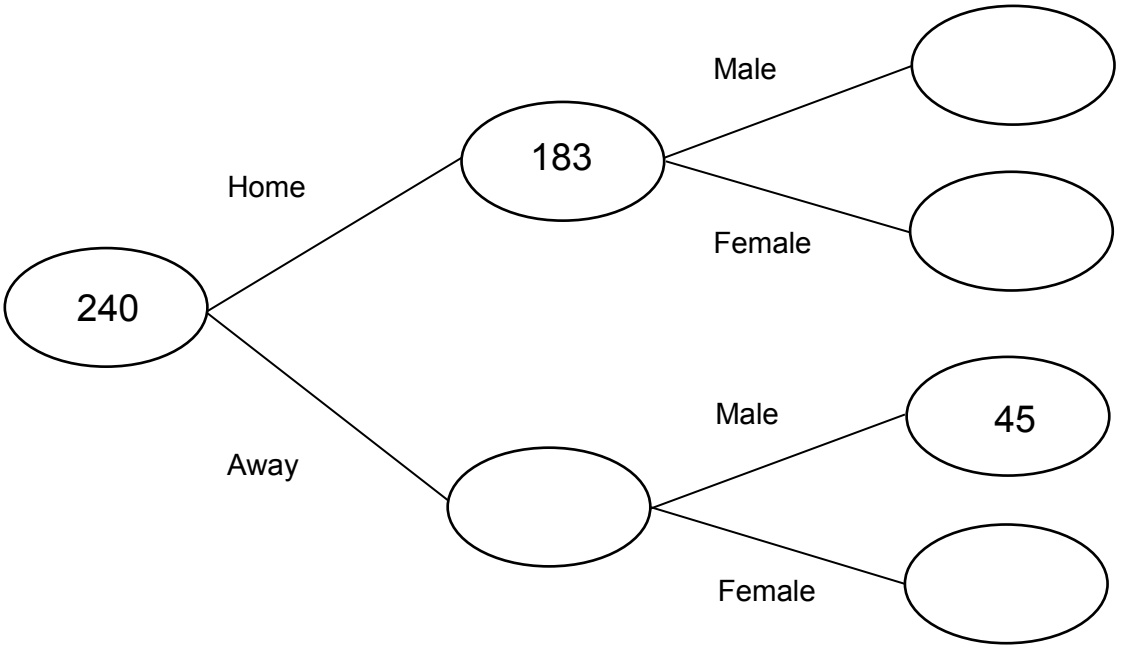
11 240 people go to a rugby match.

183 of the people support the home team.
The other people support the away team.

162 of the supporters are male.
45 of the **away** supporters are male.

Complete the frequency tree.

[4 marks]



12 Work out the remainder when 8529 is divided by 42

[3 marks]

Answer _____

Turn over for the next question

13 Harry buys this pot of yoghurt on 27 June 2017

13 (a) How many days after Harry buys the yoghurt is 13/7/17?

[1 mark]

Answer _____ days

There is some information on the pot.

Harry tries to work out the amount of sugar in 100 grams of the yoghurt.

13 (b) His first answer is 61.65 grams.

Why **must** this be wrong?

[1 mark]

13 (c) Harry now tries this calculation.

$$450 \div 57.15 \times 100$$

What error has he made?

[1 mark]

13 (d) Work out the correct amount.

[1 mark]

Answer _____ grams

14 x is a whole number greater than 1

Circle the word that makes the following sentence correct.

x is a _____ of x^2

[1 mark]

factor multiple product square

15 In a game, Anna has to describe a hexagonal prism.

She must **not** use the words 'hexagonal' or 'prism'.

She says,

"It has a uniform cross section.
It has 6 faces.
It has 12 vertices.
It has 12 edges."

Correct any mistakes Anna has made.

[2 marks]

16 During Year 10 a school runs a trip to Austria and a trip to France.

63 students go to Austria.

89 students go to France.

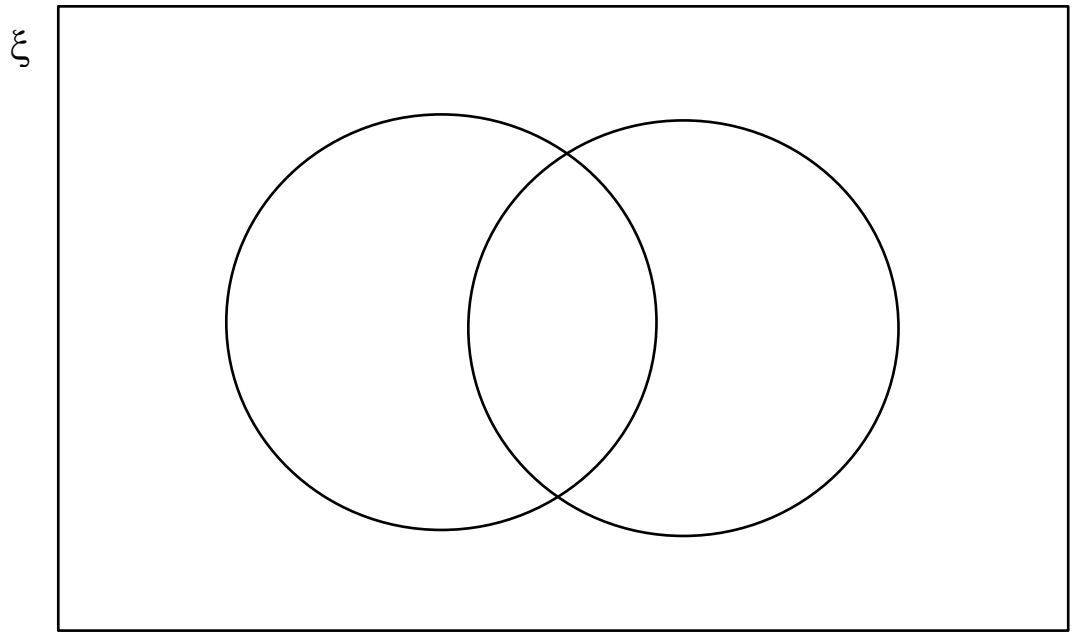
15 students go to both Austria and France.

54 students do **not** go on either trip.

How many students are there in Year 10?

You may use the Venn diagram to help you.

[3 marks]



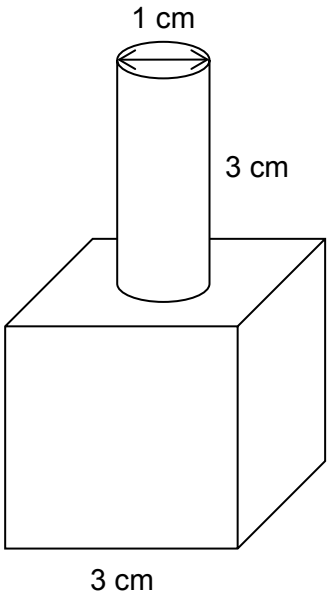
Answer _____

17 A solid shape is made with a cube and a cylinder.

The cube has edge length 3 cm

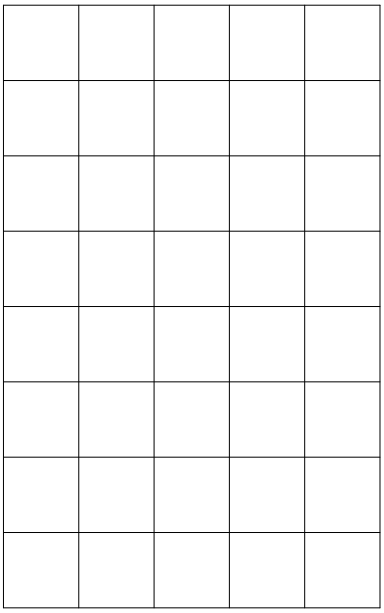
The cylinder has diameter 1 cm and height 3 cm

17 (a) The cylinder sits symmetrically on the centre of the top of the cube as shown.

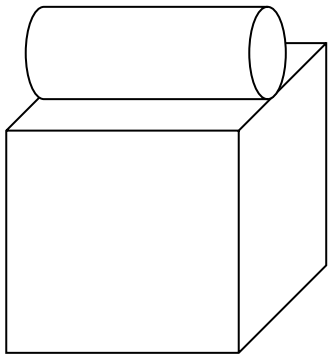


Draw the front elevation on the centimetre grid below.

[1 mark]



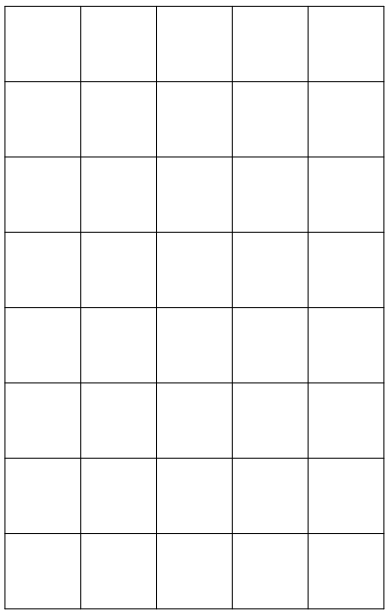
17 (b) The cylinder now sits symmetrically on the centre of the top of the cube as shown.



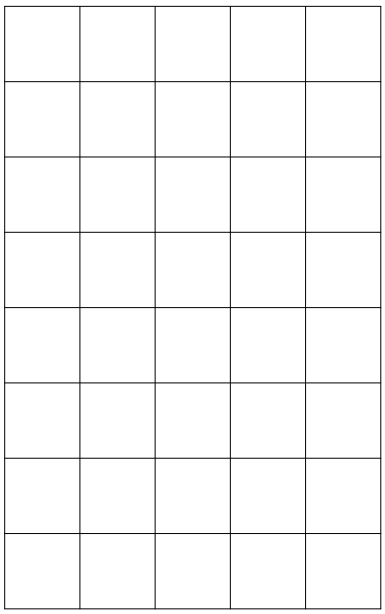
Draw the front elevation and the side elevation on the centimetre grids below.

[2 marks]

Front



Side



Turn over for the next question

18 Here is a formula.

$$s = 5t^2$$

s is the distance in metres a ball falls when dropped

t is the time taken in seconds

18 (a) A ball is dropped.

1.2 seconds later it hits the floor.

What distance does the ball fall?

[2 marks]

Answer _____ m

18 (b) A different ball is dropped from 2 metres above the floor.

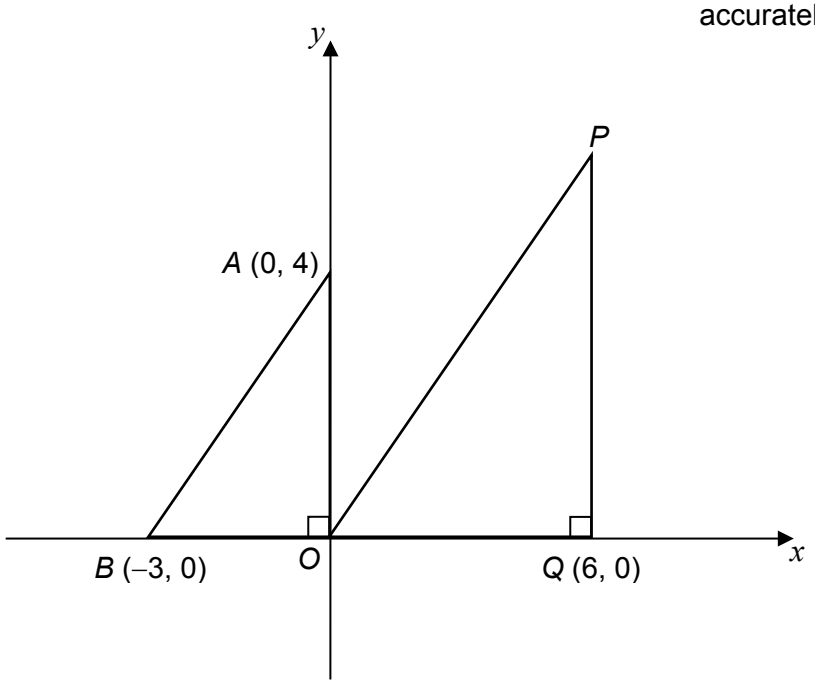
Work out the time taken for this ball to hit the floor.

[3 marks]

Answer _____ seconds

19 Here are two right-angled triangles.

Not drawn accurately



19 (a) Assume that triangles *AOB* and *PQO* are similar.

Work out the area of triangle *PQO*.

[3 marks]

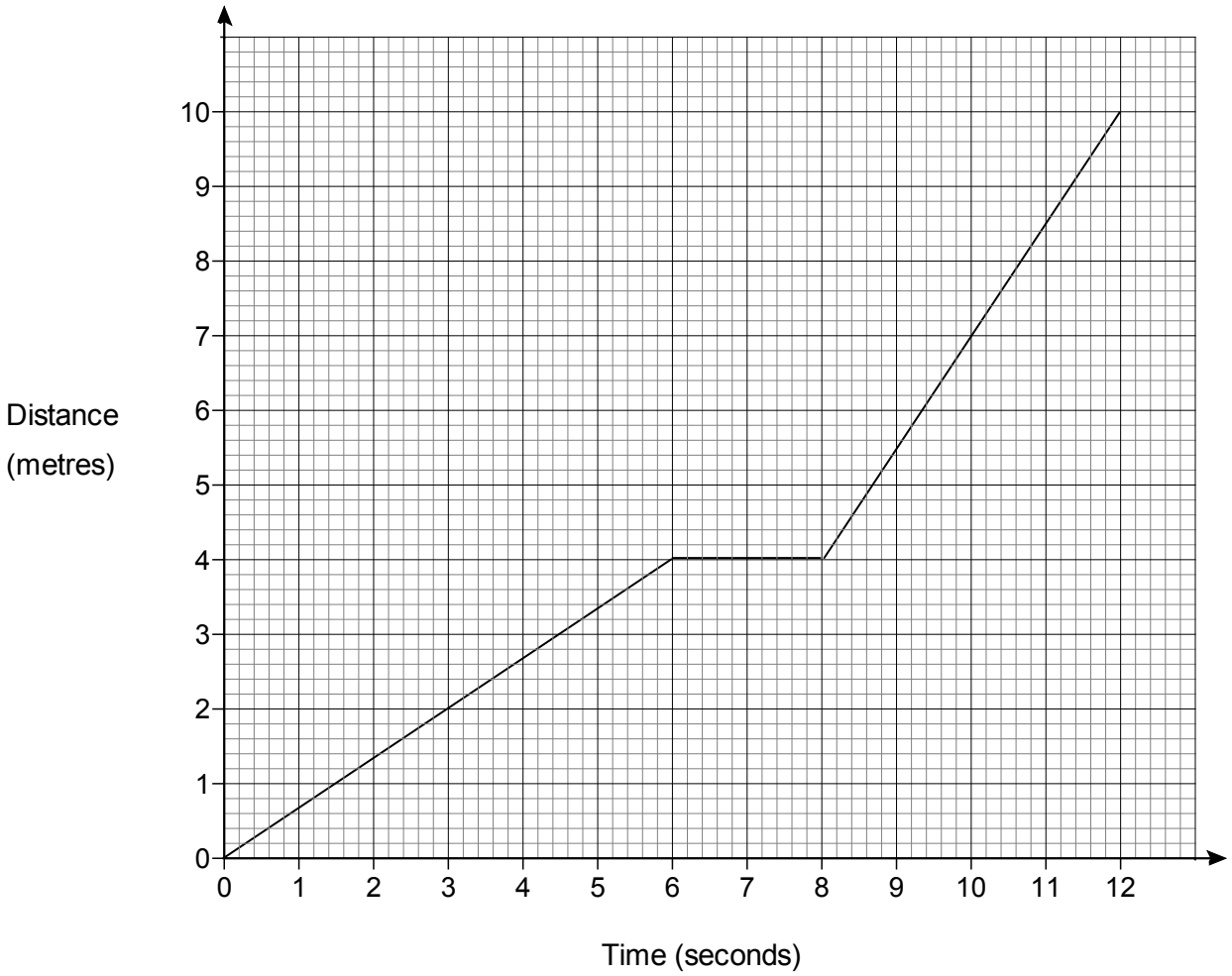
Answer _____ square units

19 (b) In fact, *QP* is longer than it would be if the triangles were similar.

How does this affect your answer to part (a)?

[1 mark]

20 The distance-time graph shows the journey of a toy train.



20 (a) Here are some descriptions of the first **two** parts of the journey.

Circle the letter of the correct description.

[1 mark]

A Accelerates then stationary

B Moves at constant speed then stationary

C Accelerates then moves at constant speed

D Stationary then moves at constant speed

20 (b) Work out the average speed for the last four seconds of the journey.

[2 marks]

Answer _____ m/s

21 Work out $(5.85 \times 10^6) \div (1.3 \times 10^2)$

Give your answer in standard form.

[2 marks]

Answer _____

Turn over for the next question

22 The four possible outcomes of an experiment are A, B, C and D.

$P(A) = 0.28$

$P(B) = 2P(A)$

$P(C) = P(D)$

Work out P(D)

[3 marks]

Answer _____

23 Circle the identity.

[1 mark]

$(x - 3)^2$ $(x - 3)^2 > 5$

$(x - 3)^2 = 1 - 6x$ $(x - 3)^2 \equiv x^2 - 6x + 9$

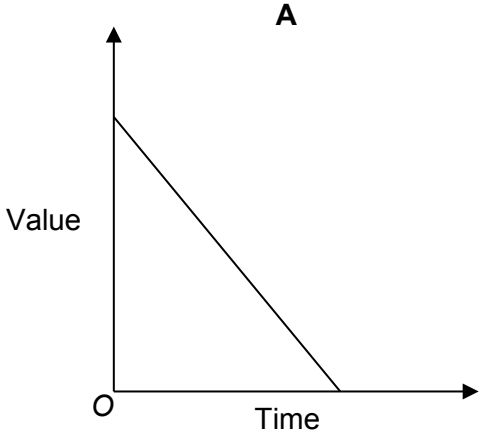
24 The value of a car decreases by the same percentage each year.

Which graph shows this?

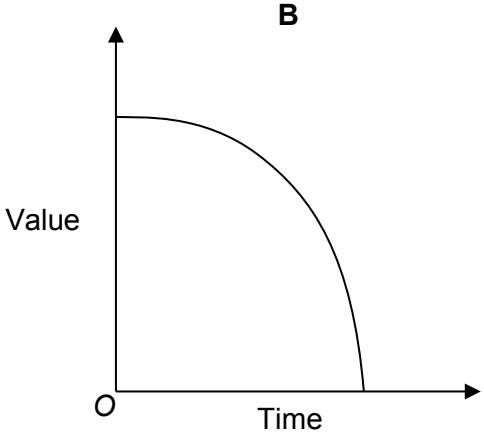
Circle the correct letter.

[1 mark]

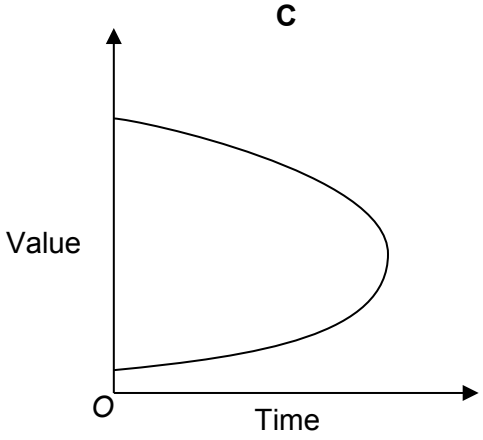
A



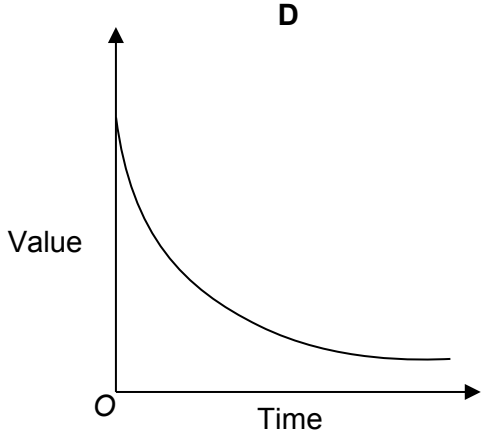
B



C



D



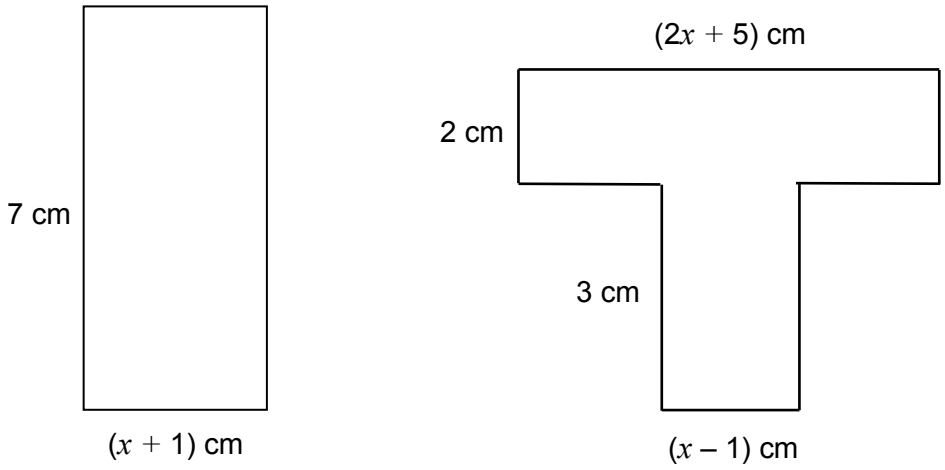
25 Here is

a rectangle

and

a T-shape made from two rectangles.

Not drawn accurately



Show that the rectangle and the T-shape have the same area.

[4 marks]

26 Use ruler and compasses for this question.

A ship is

closer to port *X* than port *Y*

less than 11 km from *Y*.

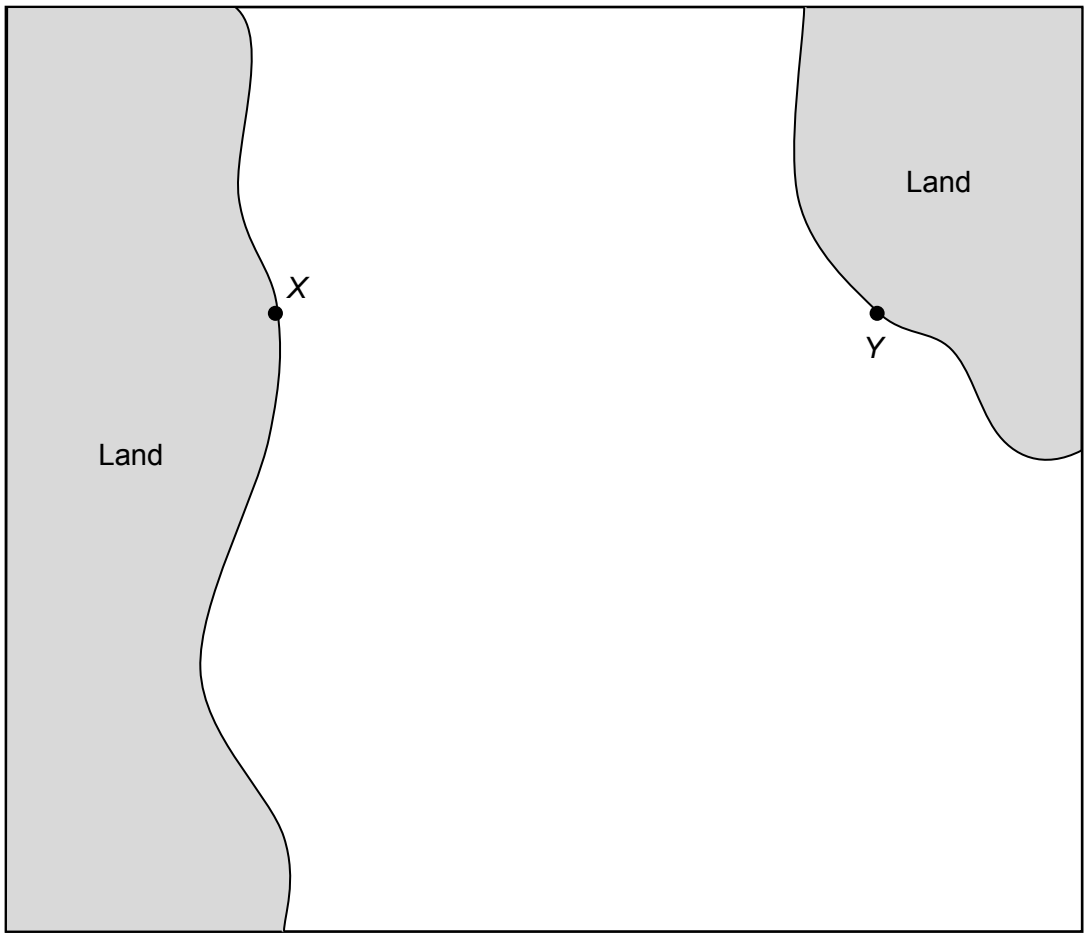
The map below shows the positions of *X* and *Y*.

On the map, show the region where the ship could be.

Label it *R*.

[4 marks]

Scale 1 cm represents 2 km



Turn over for the next question

27 I am thinking of two numbers.

If I multiply the first number by 4 and add the second number the answer is 32

If I multiply the first number by 2 and add the second number the answer is 23

Work out the two numbers.

[4 marks]

First number _____

Second number _____

END OF QUESTIONS