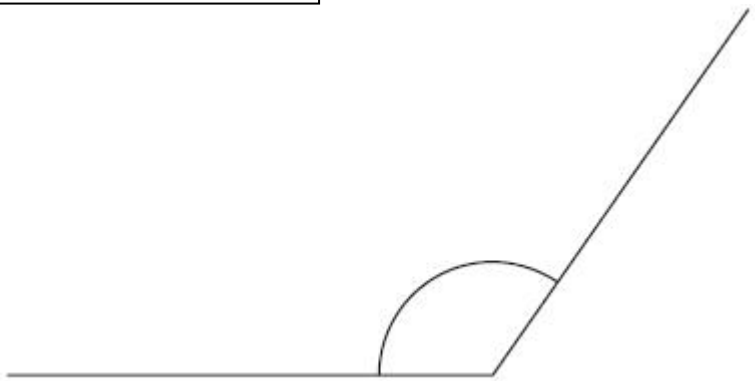
Year 10 Foundation – Test 3 – February 2024

Calculators May Be Used – 50 marks available

Name:

Q1. Here is an angle



(i) What type of angle is it? .....

(ii) Measure the size of the angle.

.....°

(Total for question = 2 marks)

Q2.

The diagram shows the position of town *T*.

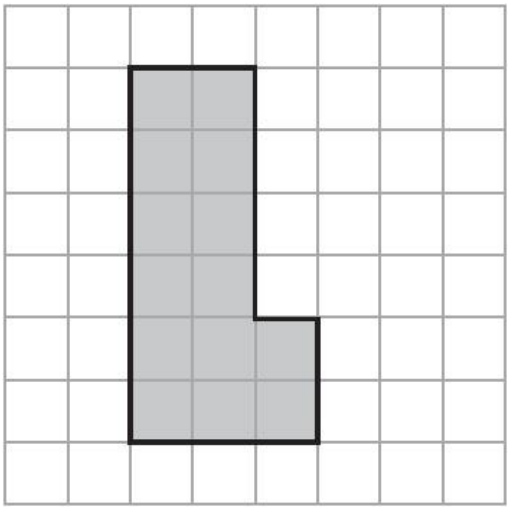
Town *R* is 55 km from town *T* on a bearing of 065°

Mark the position of town *R* with a cross (×).

Use a scale of 1 cm to 10 km.

(Total for question = 2 marks)

Q3. The diagram shows a shape on a centimetre grid.



(a) Find the area of the shape.

..... cm^2

(1)

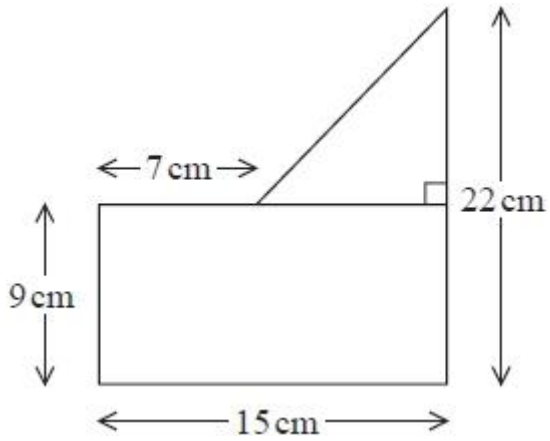
(b) Find the perimeter of the shape.

..... cm

(1)

(Total for question = 2 marks)

Q4. Here is a shape made from a rectangle and a triangle.

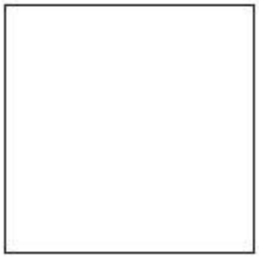


Work out the total area of the shape.

..... cm^2

(Total for question = 3 marks)

Q5. Here is a square.



(a) On the square, draw all the lines of symmetry.

(2)

Here is a rectangle.

(b) Write down the order of rotational symmetry of the rectangle.

.....

(1)

Here is a different rectangle.

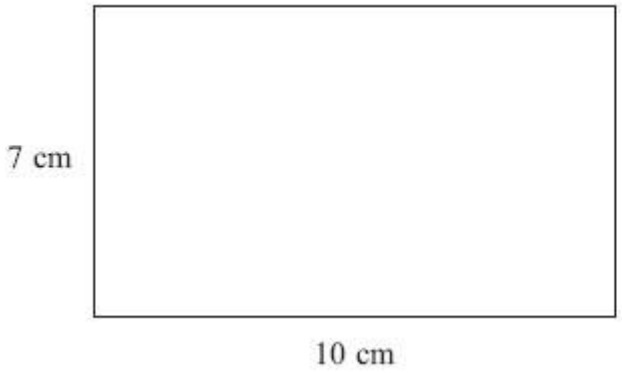


Diagram **NOT** accurately drawn

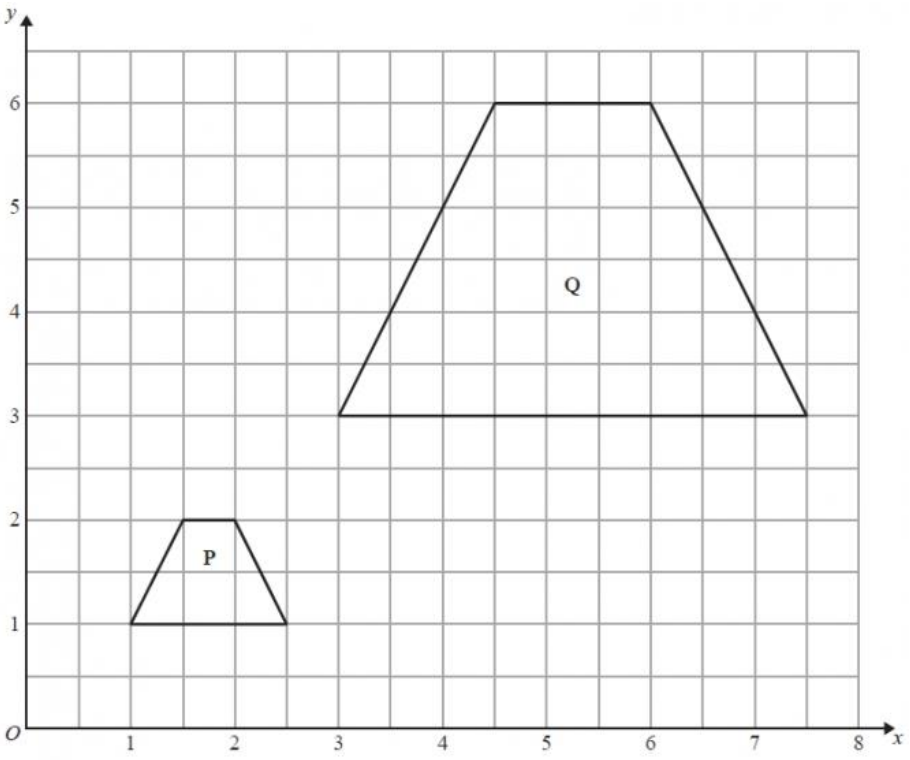
(c) Work out the area of this rectangle.

. . . . . cm^2

(2)

(Total for Question = 5 marks)

Q6.



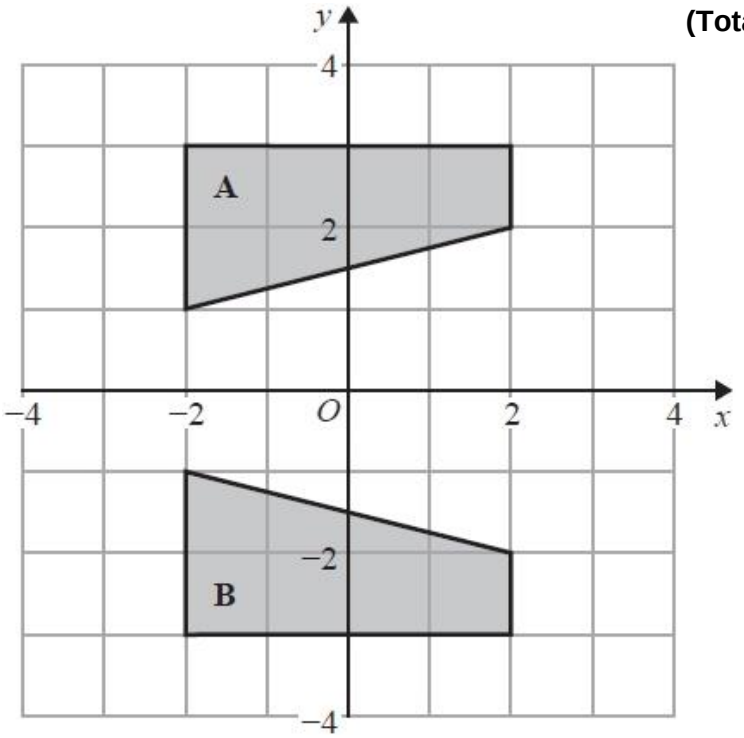
Describe fully the single transformation that maps shape **P** onto shape **Q**.

.....

.....

(Total for Question = 3 marks)

Q7.

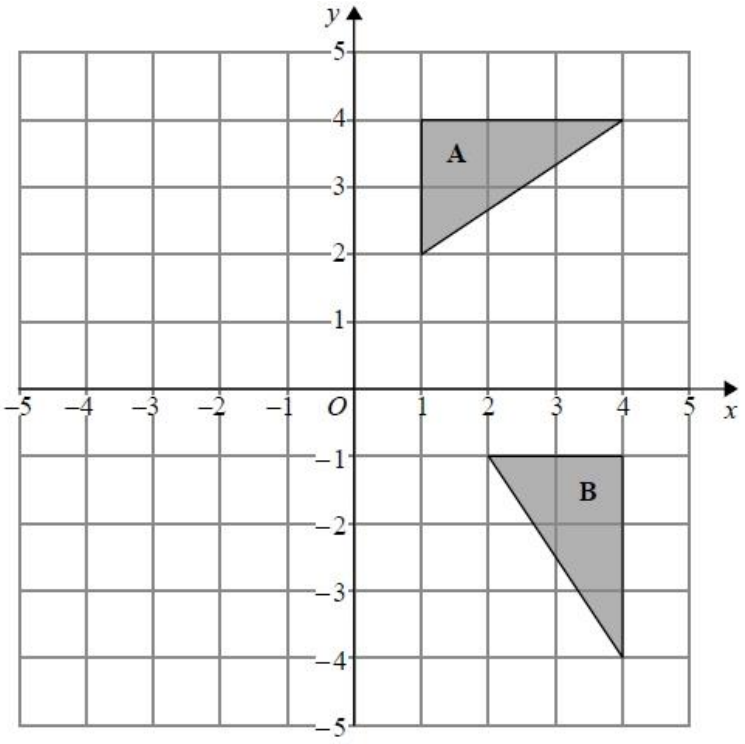


Describe fully the single transformation that maps shape **A** onto shape **B**.

.....

(Total for question = 2 marks)

Q8.



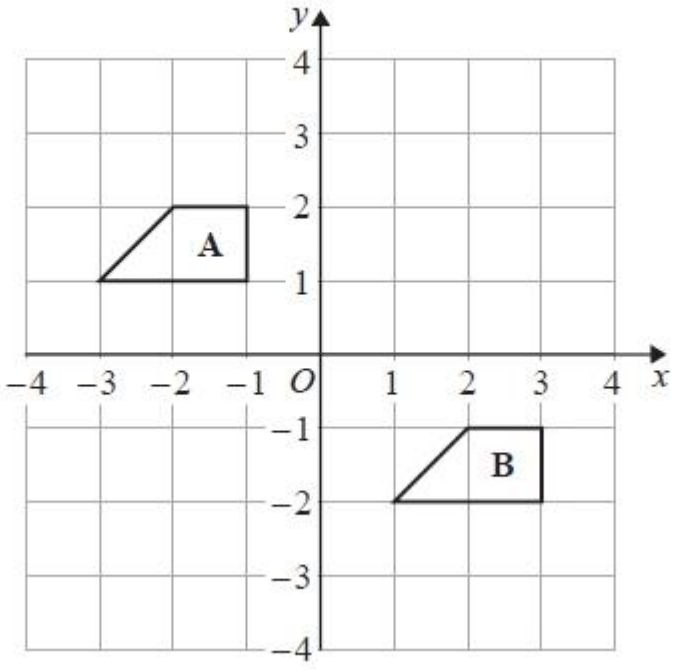
Describe fully the single transformation that maps triangle **A** onto triangle **B**.

.....

.....

(Total for question = 2 marks)

Q9.



Describe the single transformation that maps shape **A** onto shape **B**.

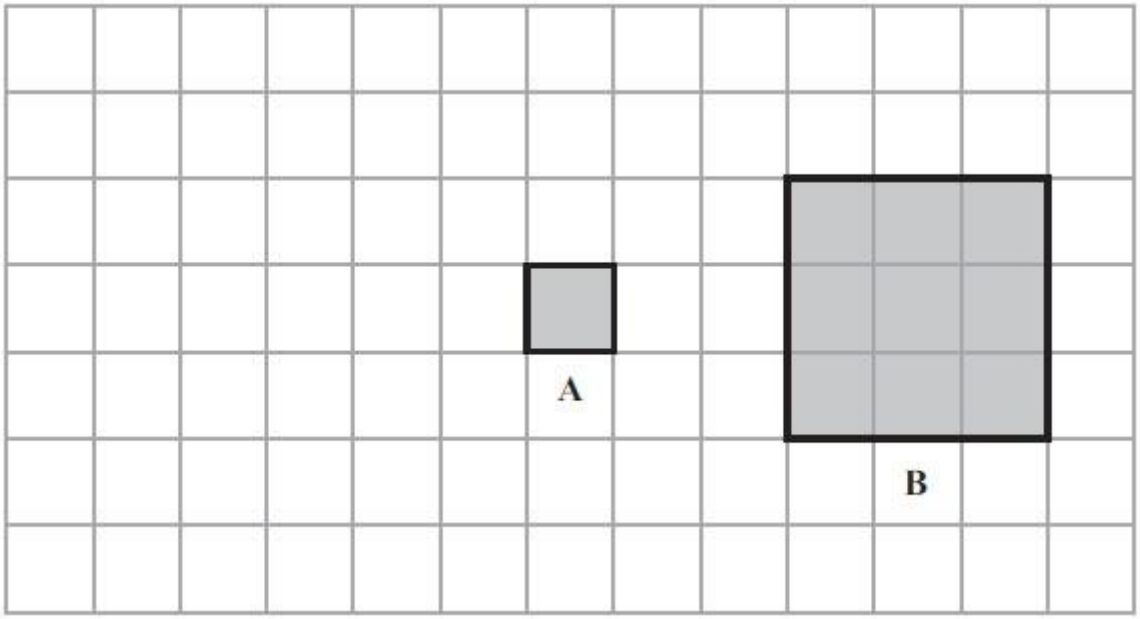
.....

.....

(Total for question = 2 marks)

Q10.

Here are two squares.



Square **B** is an enlargement of square **A**.

(a) What is the scale factor of the enlargement?

.....

(1)

Square **A** is moved 4 squares to the left.

(b) On the grid, draw the new position of square **A**.

(1)

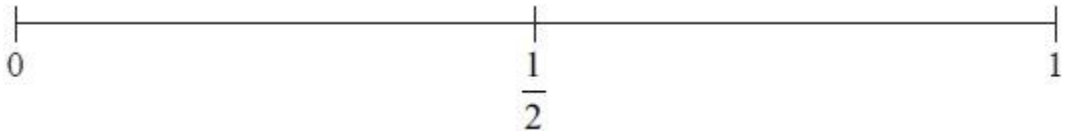
(c) In the space below, draw accurately a square with side of length 4 cm.

(2)

(Total for Question = 4 marks)

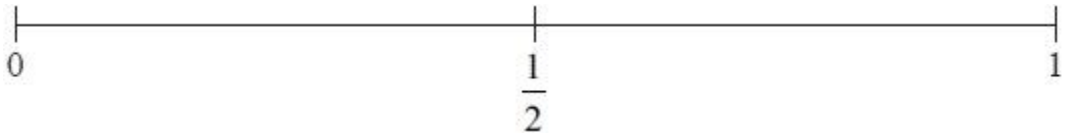
Q11. Shari has a fair ordinary dice. She rolls the dice once.

(a) On the probability scale, mark with a cross (×) the probability that Shari gets the number 7



(1)

(b) On the probability scale, mark with a cross (×) the probability that Shari gets an even number.

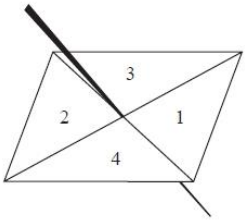


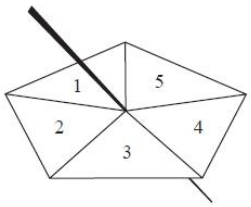
(1)

(Total for question = 2 marks)

Q12. Here are a 4–sided spinner and a 5–sided spinner.

The spinners are fair.





Jeff is going to spin each spinner once.
Each spinner will land on a number.
Jeff will get his score by adding these two numbers together.

(a) Complete the possibility space diagram for each possible score.

4-sided spinner \ 5-sided spinner	1	2	3	4	5
1	2	3	4	5	6
2	3				
3	4				
4	5				

(1)

Jeff spins each spinner once.

(b) Find the probability that Jeff gets

(i) a score of 3

.....

(ii) a score of 5 or more.

.....

(2)

(Total for question = 3 marks)

Q13.

Sue has a bag of 18 sweets.

5 of the sweets are blue
7 of the sweets are red
6 of the sweets are green

Sue takes at random a sweet from the bag.

Write down the probability that Sue

(i) takes a red sweet,

.....

(ii) does **not** take a green sweet,

.....

(iii) takes a yellow sweet.

.....

(Total for Question = 3 marks)

Q14. Write 478 to the nearest hundred.

.....

(Total for question = 1 mark)

Q15. (a) Write 2530 correct to 2 significant figures.

.....

(1)

(b) Write 0.0874 correct to 1 significant figure.

.....

(1)

(Total for question = 2 marks)

Q16.

(a) Write 7357 correct to 3 significant figures.

.....

(1)

(b) Work out $\frac{\sqrt{17 + 4^2}}{7.3^2}$

Write down all the figures on your calculator display.

.....

(2)

(Total for question = 3 marks)

Q17. Emily drives 186 miles in 3 hours.

(a) What is her average speed?

..... mph

(2)

Sarah drives at an average speed of 58 mph for 4 hours.

(b) How many miles does Sarah drive?

..... miles

(2)

(Total for question = 4 marks)

Q18. Change 53 centimetres to millimetres.

..... millimetres

(Total for question = 1 mark)

Q19. Polly has a full 5 kg sack of rice.

She pours the rice from this sack into bags.
She fills as many bags as possible.

Each full bag contains 350 g of rice.

(a) How many bags did Polly fill from this sack of rice?

.....

(3)

Polly assumes that the rice from two sacks will fill twice as many bags as the rice from one sack.

(b) Is Polly correct?

You must give a reason for your answer.

.....

.....

(1)

(Total for question = 4 marks)