

GCSE Grade 5

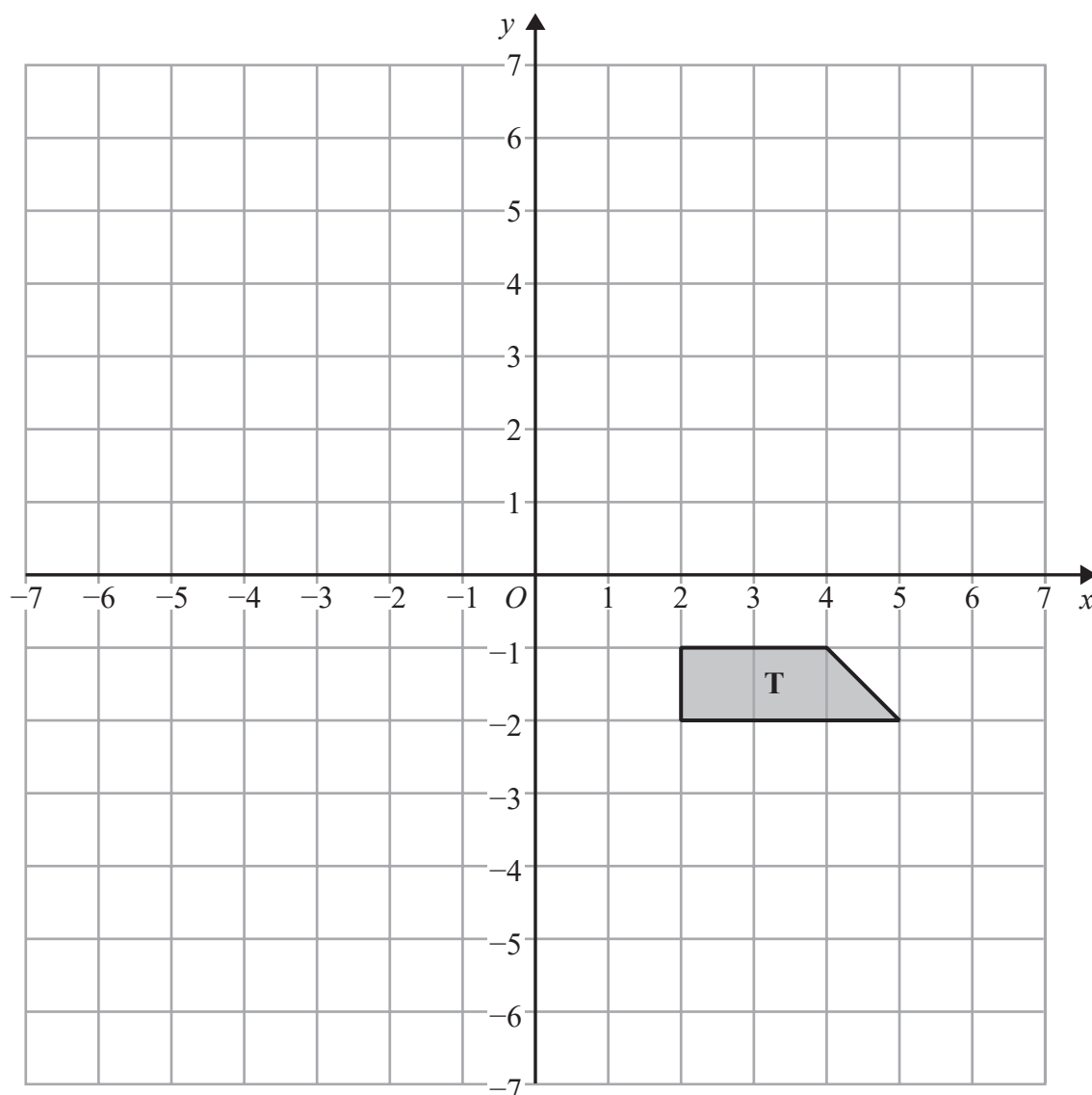
Maths

Booklet 2

Paper 2H
Calculator

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- (a) Rotate trapezium **T** 180° about the origin.
Label the new trapezium **A**.

(1)

- (b) Translate trapezium **T** by the vector $\begin{pmatrix} -1 \\ -3 \end{pmatrix}$
Label the new trapezium **B**.

(1)

(Total for Question 1 is 2 marks)



P 4 9 3 6 1 A 0 5 2 4

2 $p^3 \times p^x = p^9$

(a) Find the value of x .

$$x = \dots\dots\dots (1)$$

$$(7^2)^y = 7^{10}$$

(b) Find the value of y .

$$y = \dots\dots\dots (1)$$

$100^a \times 1000^b$ can be written in the form 10^w

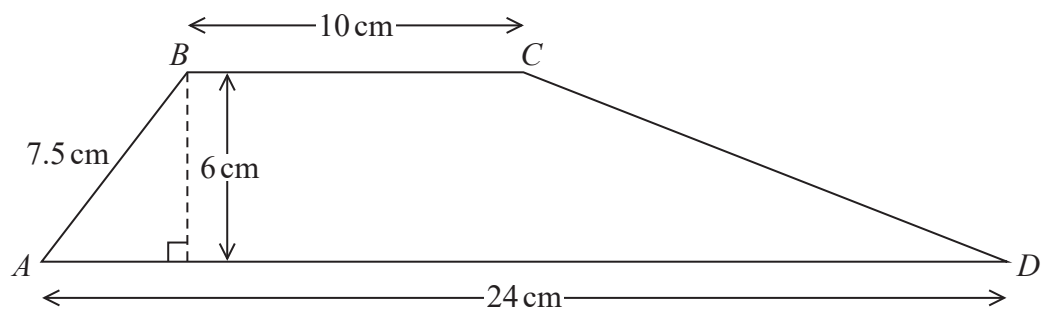
(c) Show that $w = 2a + 3b$

(2)

(Total for Question 2 is 4 marks)



- 3 $ABCD$ is a trapezium.



Work out the size of angle CDA .

Give your answer correct to 1 decimal place.

(Total for Question 4 is 5 marks)



- 4 The points L , M and N are such that LMN is a straight line.

The coordinates of L are $(-3, 1)$

The coordinates of M are $(4, 9)$

Given that $LM : MN = 2 : 3$,

find the coordinates of N .

(..... ,)

(Total for Question 4 is 4 marks)

- 5 A new phone cost £679
The value of the phone decreases at a rate of 4% per year.
Work out the value of the phone at the end of 3 years.

£.....

(Total for Question 5 is 3 marks)



- 6 In Spain, Sam pays 27 euros for 18 litres of petrol.
In Wales, Leo pays £40.80 for 8 gallons of the same type of petrol.

$$\begin{aligned} 1 \text{ euro} &= \text{£}0.85 \\ 4.5 \text{ litres} &= 1 \text{ gallon} \end{aligned}$$

Sam thinks that petrol is cheaper in Spain than in Wales.

Is Sam correct?

You must show how you get your answer.

(Total for Question 6 is 4 marks)



7 On a farm

the number of cows and the number of sheep are in the ratio 6 : 5

the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189

How many sheep are there on the farm?

(Total for Question 7 is 3 marks)

8 Use your calculator to work out $\sqrt{\frac{\sin 25^\circ + \sin 40^\circ}{\cos 25^\circ - \cos 40^\circ}}$

(a) Write down all the figures on your calculator display.

.....
(2)

(b) Write your answer to part (a) correct to 2 decimal places.

.....
(1)

(Total for Question 8 is 3 marks)

9 Yesterday it took 5 cleaners $4\frac{1}{2}$ hours to clean all the rooms in a hotel.

There are only 3 cleaners to clean all the rooms in the hotel today.

Each cleaner is paid £8.20 for each hour or part of an hour they work.

How much will each cleaner be paid today?

£

(Total for Question 9 is 3 marks)

