

## MatGFN02: Solutions

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### Guide to worked solutions

1. *Background information* that will help you answer the question, and which you **may or may not choose to write down**, is written in green (and is italicised for black and white printouts).
2. On questions worth more than 1 mark, details on the **mark breakdown** for each question are written in red (and are emboldened for black and white printouts), with the number of marks written in brackets [ ]. The same format is used for information on **answer tolerances**, where they apply.
3. *Workings and answers* that **must be written down** to gain the marks are written in blue.

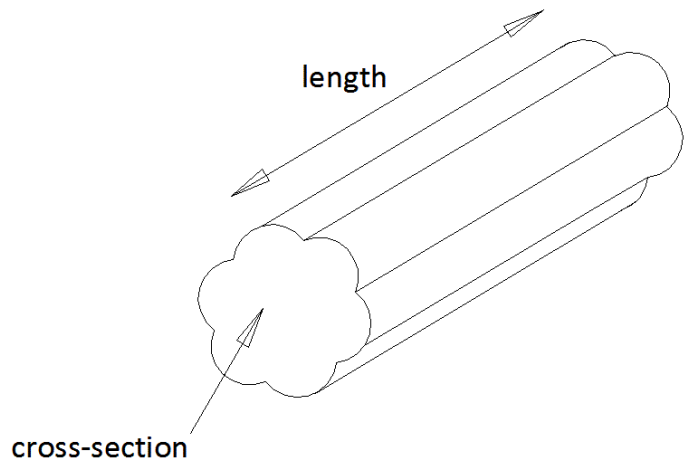
### Marks for paper

1		6		11		16	
2		7		12		17	
3		8		13		18	
4		9		14		19	
5		10		15			

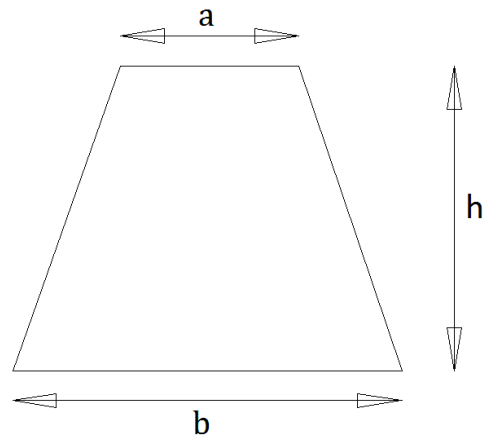
Total	
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## Formula Sheet

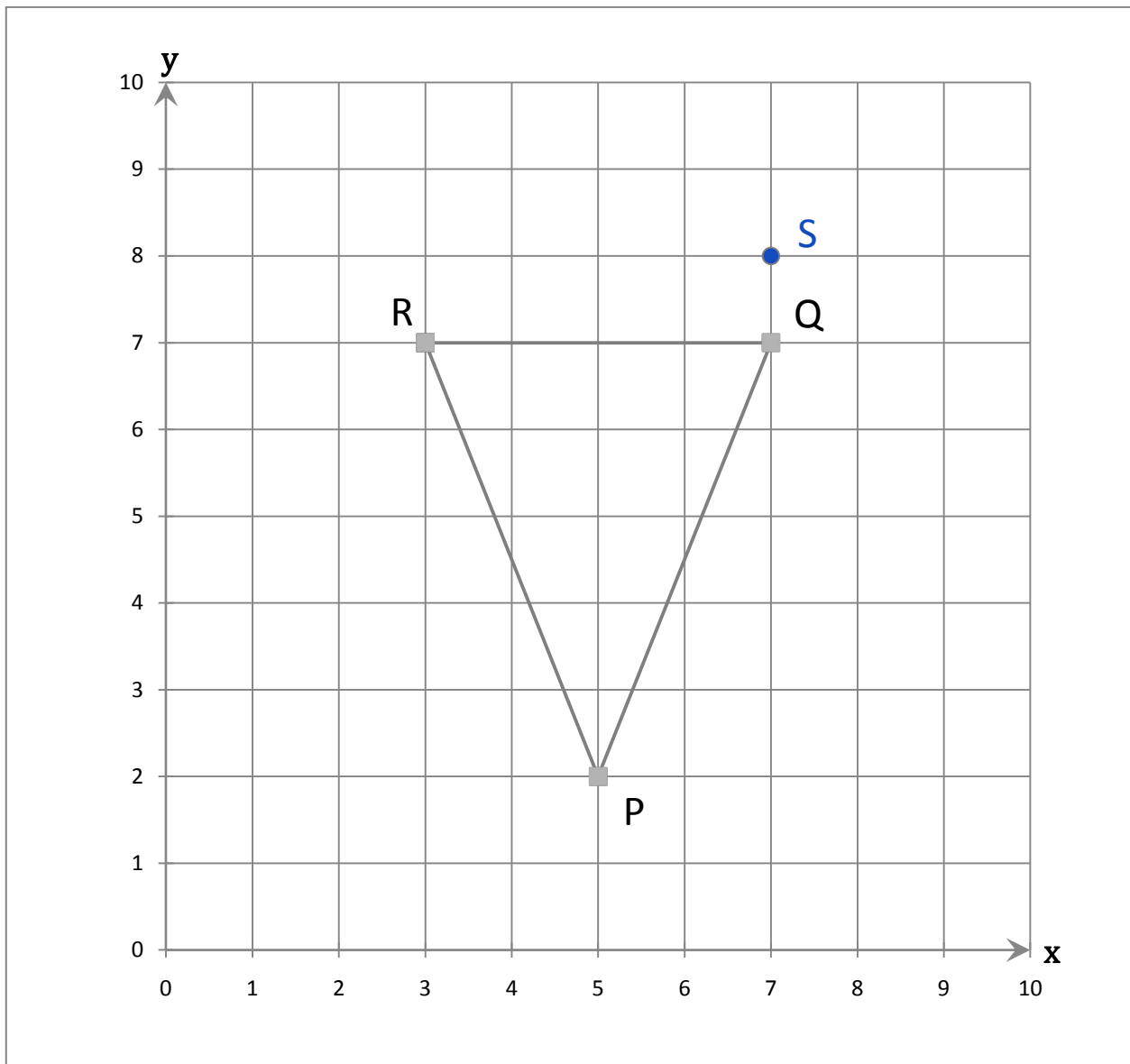
Volume of a prism = (Area of cross-section)  $\times$  length



Area of a trapezium =  $\frac{1}{2} (a + b) \times h$



6) Look at the graph below.



a. Write down the coordinates of the point P.

( 5 , 2 ) [1]

b. Circle one word below which best describes the triangle PQR.

reflex      equilateral      scalene      isosceles      acute      right-angled      obtuse

*2 sides have equal length (but not all 3), so the triangle is isosceles*

[1]

Turn over

c. Circle one word below which best describes the angle inside the triangle at P.

reflex

equilateral

scalene

isosceles

acute

right-angled

obtuse

*The angle is less than 90 degrees, so it is acute*

[1]

d. Calculate the area of PQR in centimetres squared. Each dotted square on the graph represents  $1\text{cm}^2$ .

**[1] Show you know how to calculate the area of the triangle, eg:**  $\frac{1}{2} \times (4\text{cm} \times 5\text{cm})$

**[1] Evaluate the area correctly:**

10 cm<sup>2</sup> [2]

e. RQS is a right-angled triangle. The point S lies somewhere on the grid and the line  $y = 8$ , but not on the line  $x = 3$ . Draw and label S on the grid.

[1]

7) Calculate

a.  $8\frac{1}{4} - 3\frac{2}{3}$ .

**[1] Make the fractions top heavy:**  $\frac{33}{4} - \frac{11}{3}$

**[1] Get a common denominator:**  $\frac{99}{12} - \frac{44}{12}$

**[1] Evaluate the sum correctly:**

$\frac{55}{12}$  or  $4\frac{7}{12}$  [3]

b.  $\frac{2}{5} \div \frac{4}{3}$ .

**[1] Multiply the correct fractions:**  $\frac{2}{5} \times \frac{3}{4} = \frac{6}{20}$

**[1] Get the fraction in its most reduced form:**

$\frac{3}{10}$  or 0.3 [2]

Turn over