



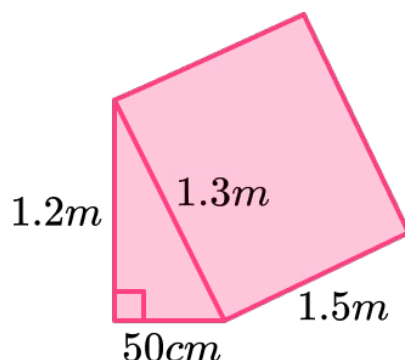
THIRD SPACE  
LEARNING

# GCSE Exam Questions

Volume and Surface Area of  
Triangular Prisms | Geometry &  
Measure

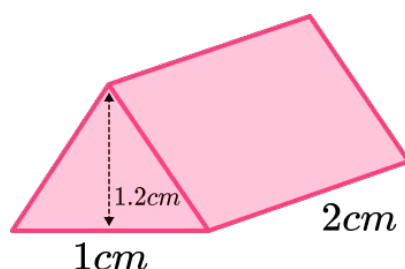
## GCSE Exam Questions: Volume and Surface Area of Triangular Prisms

- 1) Work out the surface area of this triangular prism.  
Give your answer in  $m^2$ .



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(3 marks)

- 2) (a) Work out the volume of this triangular prism.



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(2)

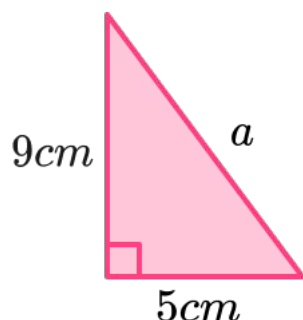
- (b) The prism is made from gold, which has a density of  $19.32g/cm^3$ . Gold is currently valued at £46 per gram.

What is the value of the prism?

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(2)  
(4 marks)

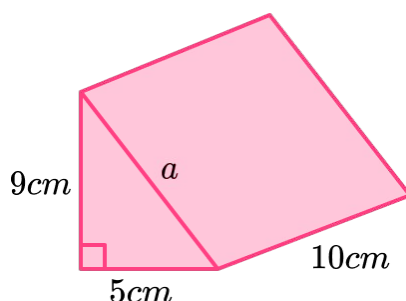
## GCSE Exam Questions: Volume and Surface Area of Triangular Prisms

- 3) (a) Work out the length of the side labelled  $a$ .



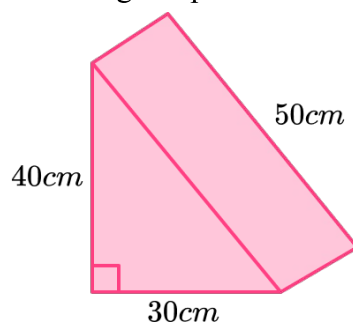
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(2)

- (b) Hence find the surface area of this triangular prism.



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(3)  
(5 marks)

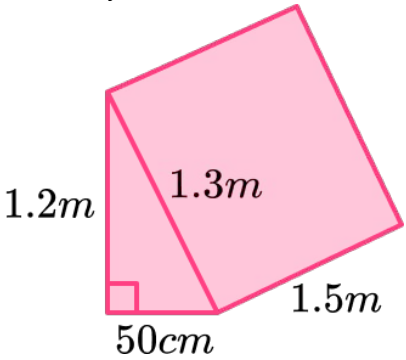
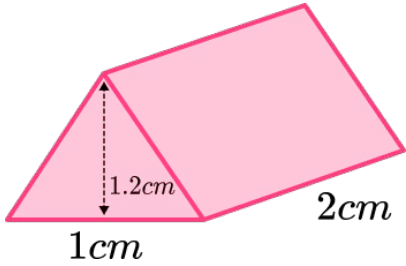
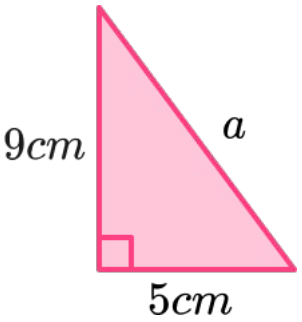
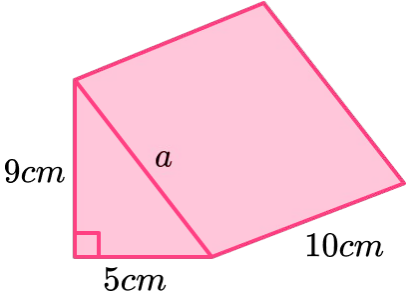
- 4) The volume of this triangular prism is  $6000\text{cm}^3$ .



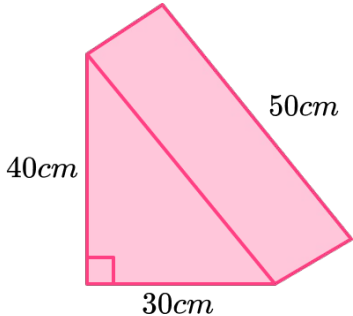
What is the surface area of the prism?

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(5 marks)

## GCSE Exam Questions: Volume and Surface Area of Triangular Prisms Answers

	Question	Answer	Marks
1)	<p>Work out the surface area of this triangular prism. Give your answer in <math>m^2</math>.</p> 	$50cm = 0.5m$ $\frac{1}{2} \times 0.5 \times 1.2 = 0.3$ $1.5 \times 0.5 = 0.75$ $1.5 \times 1.2 = 1.8$ $1.5 \times 1.3 = 1.95$ $0.3 + 0.3 + 0.75 + 1.8 + 1.95 = 5.1m^2$	<p>(1)</p> <p>(1)</p> <p>(1)</p>
2) (a)	<p>Work out the volume of this triangular prism.</p> 	<p>Area of triangle: <math>\frac{1}{2} \times 1 \times 1.2 = 0.6</math></p> <p>Volume: <math>0.6 \times 2 = 1.2cm^3</math></p>	<p>(1)</p> <p>(1)</p>
(b)	<p>The prism is made from gold, which has a density of <math>19.32g/cm^3</math>. Gold is currently valued at £46 per gram. What is the value of the prism?</p>	$1.2 \times 19.32 = 23.184g$ $23.184 \times 46 = \text{£}1066.46$	<p>(1)</p> <p>(1)</p>
3) (a)	<p>Work out the length of the side labelled <math>a</math>.</p> 	$a^2 = 9^2 + 5^2$ $a = 10.3cm$	<p>(1)</p> <p>(1)</p>
(b)	<p>Hence find the surface area of this triangular prism.</p> 	$\frac{1}{2} \times 9 \times 5 = 22.5$ $10 \times 5 = 50$ $10 \times 9 = 90$ $10 \times 10.3 = 103$ $22.5 + 22.5 + 50 + 90 + 103 = 288cm^2$	<p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p>

## GCSE Exam Questions: Volume and Surface Area of Triangular Prisms Answers

	Question	Answer	Marks
4)	<p>The volume of this triangular prism is <math>6000\text{cm}^3</math>. What is the surface area of the prism?</p> 	$\frac{1}{2} \times 40 \times 30 = 600$ $6000 = 600l$ $l = 10\text{cm}$ $10 \times 30 = 300$ $10 \times 40 = 400$ $10 \times 50 = 500$ $600 + 600 + 300 + 400 + 500$ $= 2400\text{cm}^2$	<p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p> <p>(1)</p>

# Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning [GCSE maths revision](#) pages.

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