

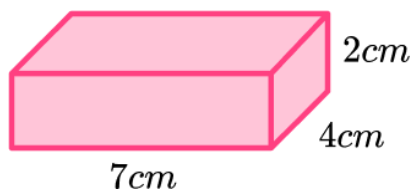
Surface Area of a Cuboid - Worksheet

Skill

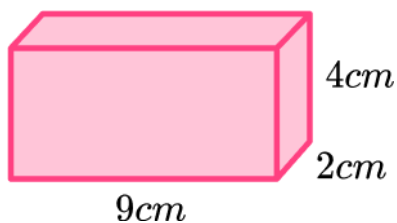
Group A - Surface area

Work out the surface area of each cuboid.

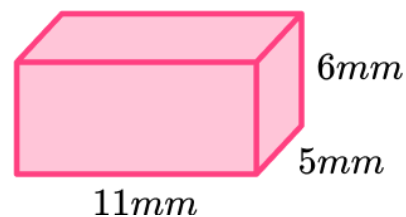
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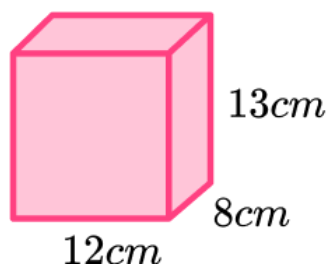
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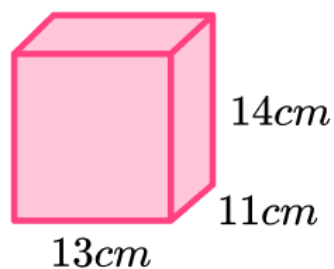
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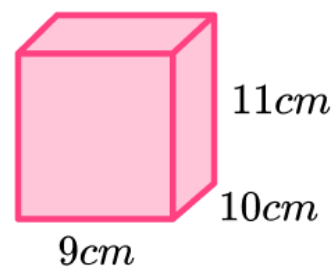
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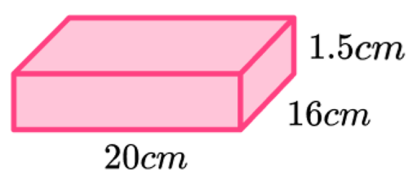
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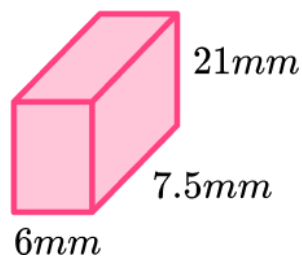
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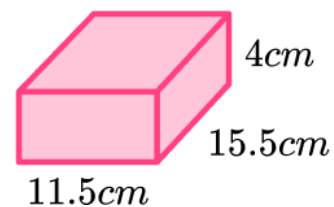
7)



8)



9)

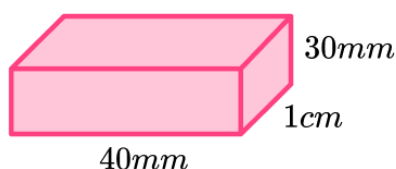


Surface Area of a Cuboid - Worksheet

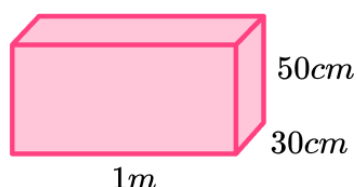
Group B - Unit conversion

Work out the surface area of each cuboid. Careful with your units.

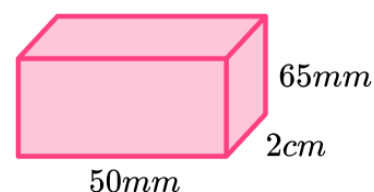
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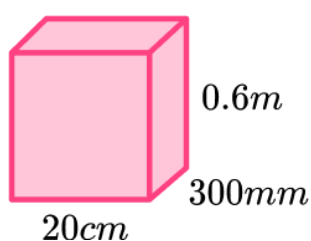
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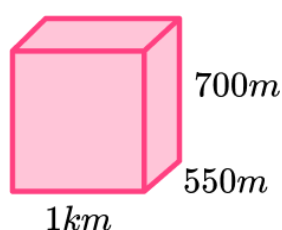
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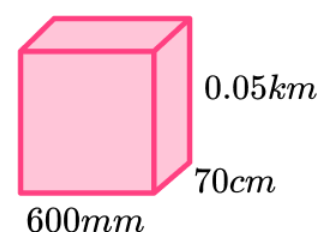
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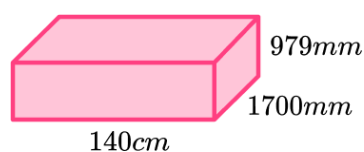
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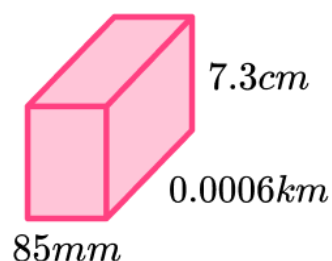
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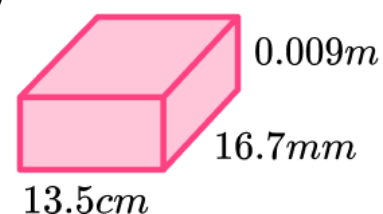
7)



8)



9)

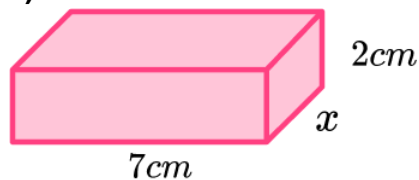


Surface Area of a Cuboid - Worksheet

Group C - Working backwards

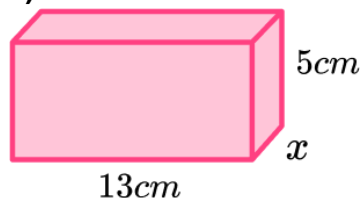
Work out the value of x in each of the cuboids below:

1)



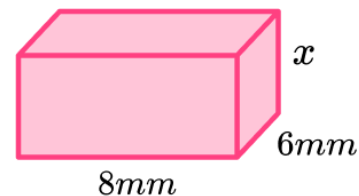
$$\text{Surface area} = 190\text{cm}^2$$

2)



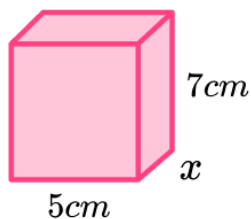
$$\text{Surface area} = 202\text{cm}^2$$

3)



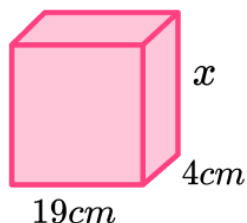
$$\text{Surface area} = 208\text{cm}^2$$

4)



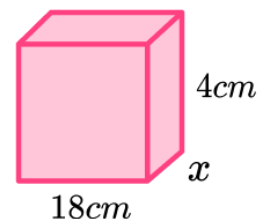
$$\text{Surface area} = 334\text{cm}^2$$

5)



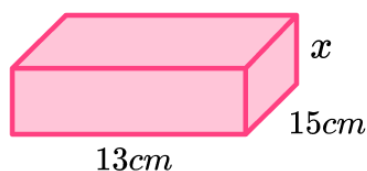
$$\text{Surface area} = 796\text{cm}^2$$

6)



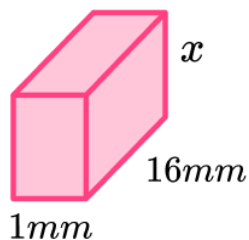
$$\text{Surface area} = 716\text{cm}^2$$

7)



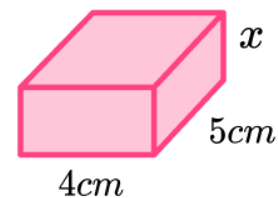
$$\text{Surface area} = 1510\text{cm}^2$$

8)



$$\text{Surface area} = 508\text{cm}^2$$

9)

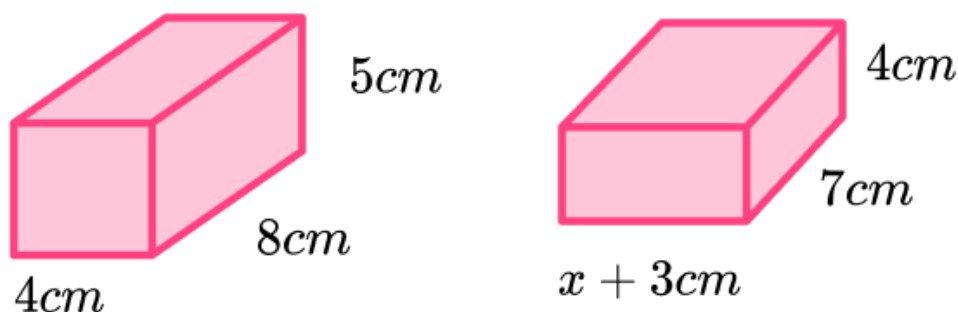


$$\text{Surface area} = 346\text{cm}^2$$

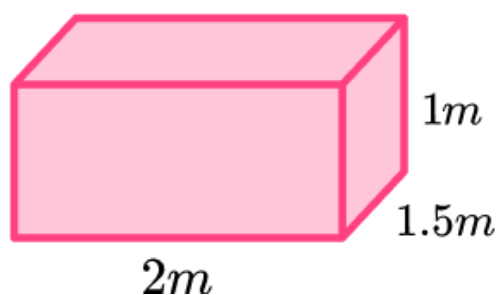
Surface Area of a Cuboid - Worksheet

Applied

- 1) (a) Calculate the surface area of a cube with side length of 8cm .
(b) Calculate the surface area of a cube with side length of 13cm .
- 2) (a) A cube has a volume of 27cm^3 . What is the surface area of the cube?
(b) A cube has a volume of 729cm^3 . What is the surface area of the cube?
- 3) (a) The cuboids have the same surface area. Work out the value of x .



- 4) (a) Maneet wants to paint the box below. Each tin of paint covers a surface area of 2m^2 . How many tins of paint will Maneet need to paint the entire box?



- (b) If each tin of paint costs £9.95, how much will it cost to paint the entire box?

Surface Area of a Cuboid - Exam Questions

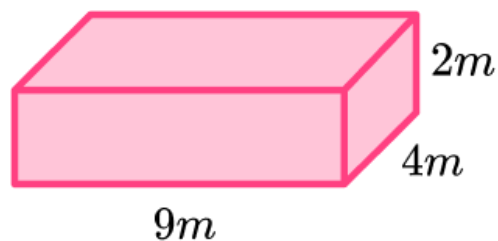
- 1) (a) Work out the surface area of a cube with side length 11cm .

.....
(2)

- (b) Convert the surface area in (a) to m^2 .

.....
(2)
(4 marks)

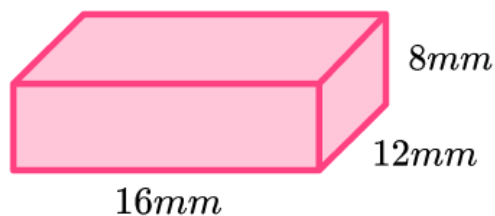
-
- 2) Work out the surface area of the cuboid.



.....
(2)
(2 marks)

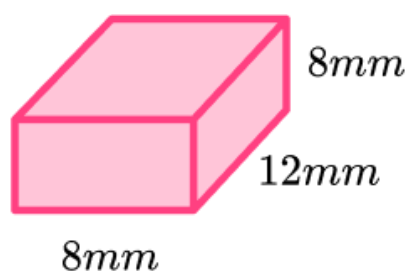
Surface Area of a Cuboid - Exam Questions

- 3) (a) Work out the surface area of the cuboid.



.....
(2)

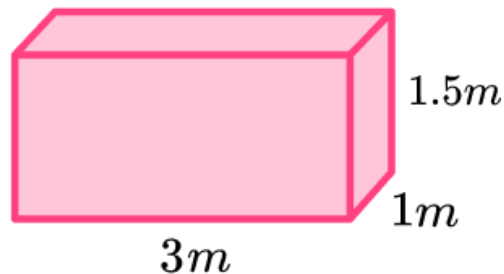
- (b) Paula says that the surface area of this cuboid will be half of the surface area of the cuboid above. Is she correct? Show your working.



.....
(2)
(4 marks)

Surface Area of a Cuboid - Exam Questions

- 4) (a) Amanda wants to wrap the present on the right with wrapping paper. Wrapping comes in $2m$ long rolls with width $1.5m$. How many rolls of wrapping paper will she need to wrap the entire present?

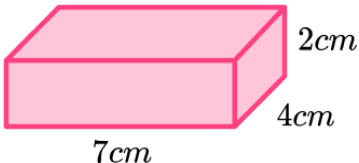
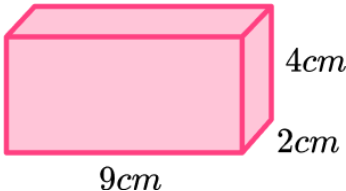
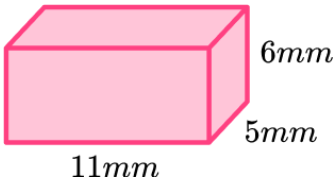
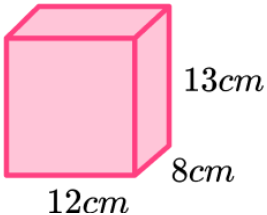
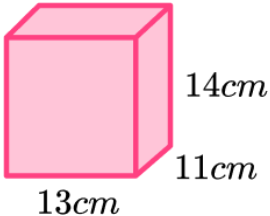
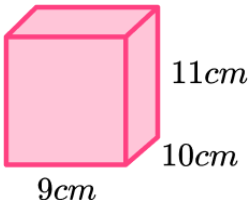


.....
(3)

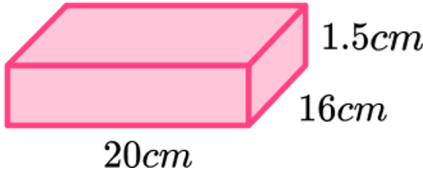
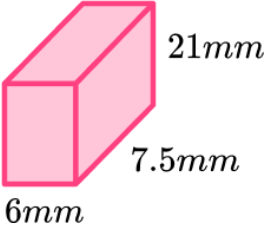
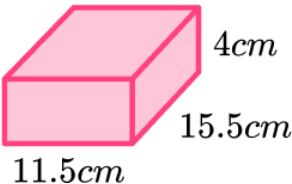
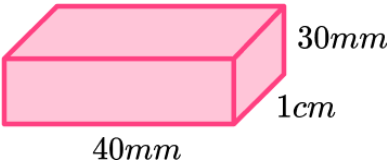
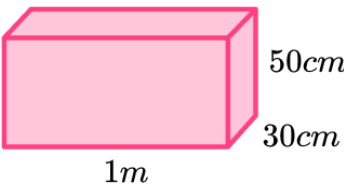
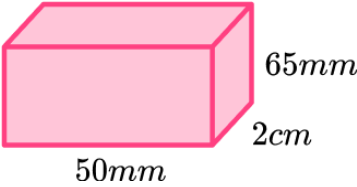
- (b) If each roll of paper costs £17.50, how much will it cost to wrap the entire present?

.....
(2)
(5 marks)

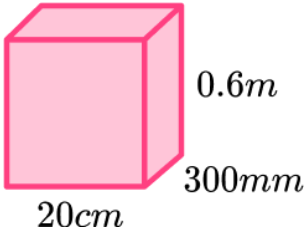
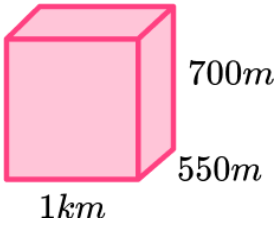
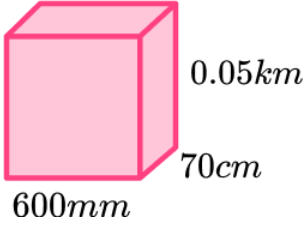
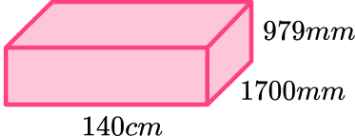
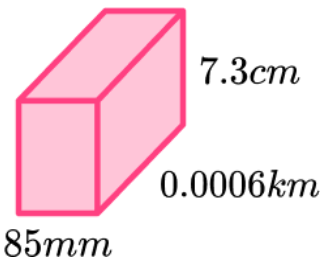
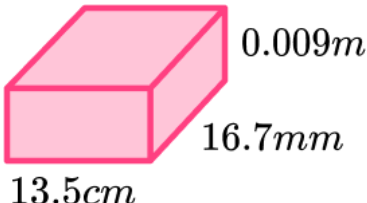
Surface Area of a Cuboid - Answers

	Question	Answer
	Skill Questions	
Group A	Work out the surface area of each cuboid 1)  2)  3)  4)  5)  6) 	1) 100cm^2 2) 124cm^2 3) 302mm^2 4) 712cm^2 5) 958cm^2 6) 598cm^2

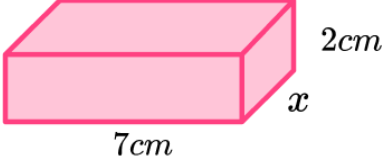
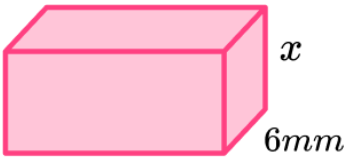
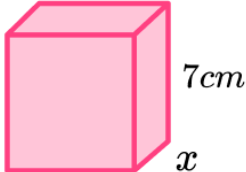
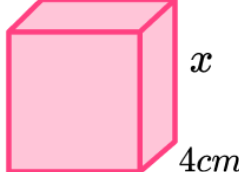
Surface Area of a Cuboid - Answers

Group A contd	7)  20cm 16cm 1.5cm 8)  6mm 7.5mm 21mm 9)  11.5cm 15.5cm 4cm	7) 748cm^2 8) 657mm^2 9) 572.5cm^2
Group B	Work out the surface area of each cuboid. Careful with your units. 1)  40mm 30mm 1cm 2)  1m 30cm 50cm 3)  50mm 65mm 2cm	1) 3800mm^2 or 38cm^2 2) 19000cm^2 or 1.9m^2 3) 11100mm^2 or 111cm^2

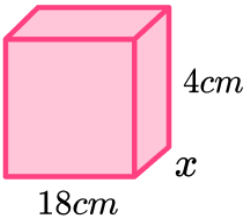
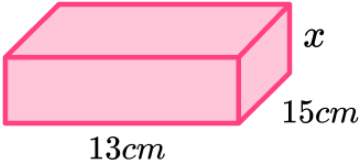
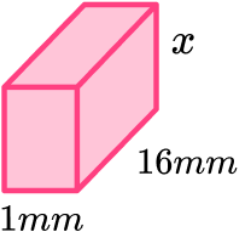
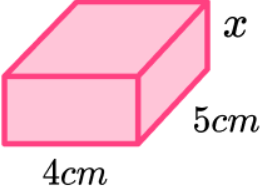
Surface Area of a Cuboid - Answers

Group B contd	4)  5)  6)  7)  8)  9) 	4) 720000mm^2 or 7200cm^2 5) 3.27km^2 or 3270000m^2 6) 138400cm^2 7) 108298cm^2 or 10829800mm^2 8) 2020.1cm^2 9) 72.40cm^2
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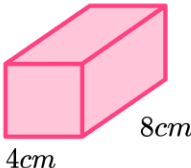
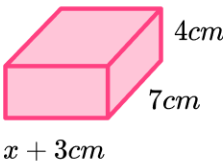
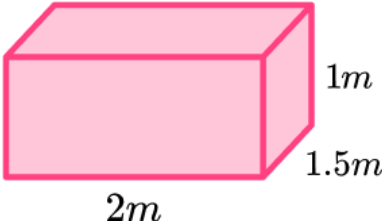
Surface Area of a Cuboid - Answers

Group C	Work out the value of x in each of the cuboids below: 1)  $7cm$ $Surface\ area = 190cm^2$ 2)  $13cm$ $Surface\ area = 202cm^2$ 3)  $8mm$ $Surface\ area = 208cm^2$ 4)  $5cm$ $Surface\ area = 334cm^2$ 5)  $19cm$ $Surface\ area = 796cm^2$	1) $9cm$ 2) $2cm$ 3) $4mm$ 4) $11cm$ 5) $14cm$
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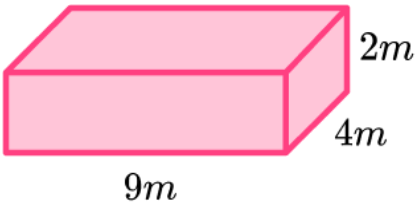
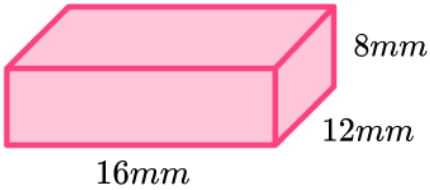
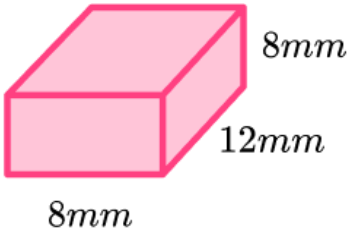
Surface Area of a Cuboid - Answers

Group C contd	6)  18cm 4cm x Surface area = 716cm^2 7)  13cm 15cm x Surface area = 1510cm^2 8)  16mm 1mm x Surface area = 508cm^2 9)  4cm 5cm x Surface area = 346cm^2	6) 13cm 7) 20cm 8) 14mm 9) 17cm
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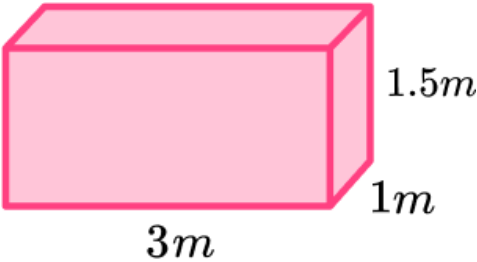
Surface Area of a Cuboid - Answers

	Question	Answer
	Applied Questions	
1)	a) Calculate the surface area of a cube with side length of 8cm. b) Calculate the surface area of a cube with side length of 13cm.	a) 384cm^2 b) 1014cm^2
2)	a) A cube has a volume of 27cm^3. What is the surface area of the cube? b) A cube has a volume of 729cm^3. What is the surface area of the cube?	a) 54cm^2 b) 486cm^2
3)	The cuboids have the same surface area. Work out the value of x.  	$x \approx 2.8$
4)	a) Maneet wants to paint the box below. Each tin of paint covers a surface area of 2m^2. How many tins of paint will Maneet need to paint the entire box?  b) If each tin of paint costs £9.95, how much will it cost to paint the entire box?	a) 7 tins of paint b) £69.65

Surface Area of a Cuboid - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Work out the surface area of a cube with side length 11cm .	(a) $SA = 2lw + 2lh + 2wh$ $SA = 2(11)(11) + 2(11)(11) + 2(11)(11)$ 726cm^2	(1) (1)
(b)	Convert the surface area is (a) to m^2 .	(b) $726\text{cm}^2 \div 100^2$ 0.0726m^2	(1) (1)
2) (a)	Work out the surface area of the cuboid. 	(a) $SA = 2lw + 2lh + 2wh$ $SA = 2(9)(4) + 2(4)(2) + 2(9)(2)$ 124m^2	(1) (1)
3) (a)	Work out the surface area of the cuboid. 	(a) $SA = 2lw + 2lh + 2wh$ $SA = 2(16)(12) + 2(12)(8) + 2(16)(8)$ 832mm^2	(1) (1)
(b)	Paula says that the surface area of this cuboid will be half of the cuboid above. Is she correct? Show your working. 	(b) No she is not correct because the surface area of this cuboid is 512mm^2 $SA = 2lw + 2lh + 2wh$ $SA = 2(8)(12) + 2(12)(8) + 2(8)(8)$ 512mm^2	(1) (1)

Surface Area of a Cuboid - Mark Scheme

4) (a) Amanda wants to wrap the present on the right with wrapping paper. Wrapping comes in $2m$ long rolls and the width is $1.5m$. How many rolls of wrapping paper will she need to wrap the entire present? 	(a) $SA = 2lw + 2lh + 2wh$ $SA = 2(3)(1) + 2(1)(1.5) + 2(3)(1.5)$ $Surface\ Area = 18m^2$ $Area\ of\ roll = l \times w$ $Area\ of\ roll = 2 \times 1.5$ $Area\ of\ roll = 3m^2$ $18m^2 \div 3m^2 = 6$ 6 rolls will be needed to wrap the entire present
(b) If each roll of paper costs £17.50, how much will it cost to wrap the entire present?	(b) 6×17.50 £105

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