THIRD SPACE LEARNING

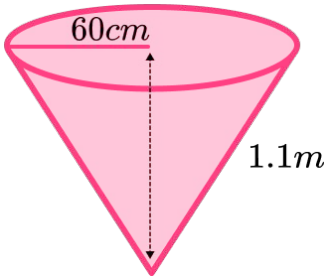
GCSE Exam Questions

How to Calculate Surface Area | Geometry & Measure

GCSE Exam Questions: How to Calculate Surface Area

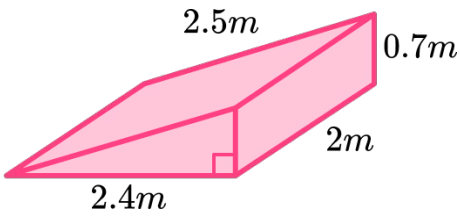
1) Calculate the surface area of the cone.

Give your answer in m^2 to 1 d.p.



(3 marks)

2) (a) Jonny has designed a bike ramp as shown.



Jonny intends to construct the bike ramp from sheets of wood.

Calculate the surface area of wood Jonny requires to build the ramp.

(3)

(b) The wood costs £18.20 per square metre.

How much will it cost Jonny to build the ramp?

(1)

(4 marks)

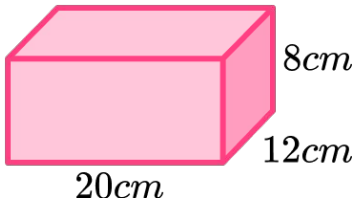
GCSE Exam Questions: How to Calculate Surface Area

3) A new planet has been discovered. The radius of the planet is $6256km$.

Work out the surface area of the planet. Give your answer to 3sf.

(3 marks)

4) **(a)** This box has a volume of $1920cm^3$. Work out the surface area of the box.

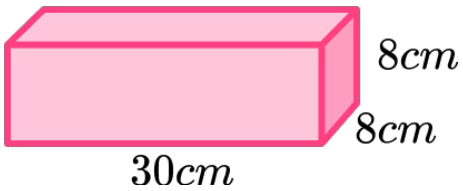


(2)

(b) This box also has a volume of $1920cm^2$.

Is the surface area of this box the same as the box above?

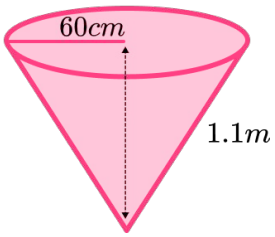
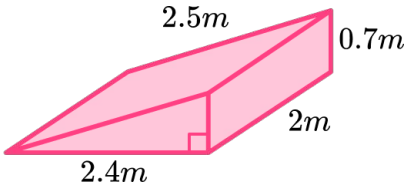
Show how you decide.



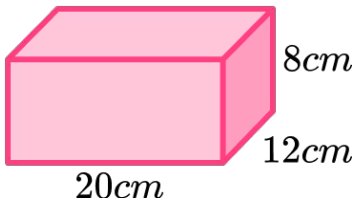
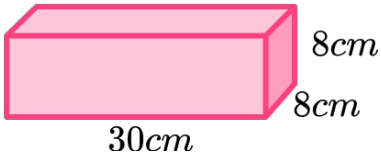
(2)

(4 marks)

GCSE Exam Questions: How to Calculate Surface Area Answers

	Question	Answer	Marks
1)	Calculate the surface area of the cone. Give your answer in m^2 to 1dp.  	Curved surface area: $\pi \times 0.6 \times 1.1 = 2.0734\ldots$ Area of circle: $\pi \times 0.6^2 = 1.13097\ldots$ Total surface area: $2.0734 + 1.13097 = 3.2m^2$	**(1)** **(1)** **(1)**
2) (a)	Jonny has designed a bike ramp as shown.  Jonny intends to construct the bike ramp from sheets of wood. Calculate the surface area of wood Jonny requires to build the ramp.	**(a)** Area of triangle: $\frac{1}{2} \times 2.4 \times 0.7 = 0.84m^2$ Areas of rectangular faces: $4.8m^2$, $5m^2$, $1.4m^2$ Total surface area: $0.84 + 0.84 + 4.8 + 5 + 1.4$ $= 12.88m^2$	**(1)** **(1)** **(1)**
(b)	The wood costs £18.20 per square metre. How much will it cost Jonny to build the ramp?	**(b)** $12.88 \times 18.20 = £234.42$	**(1)**
3)	A new planet has been discovered. The radius of the planet is $6256km$. Work out the surface area of the planet. Give your answer to 3sf.	$4 \times \pi \times 6256^2$ 491 816 782.3 km^2 492 000 000 km^2	**(1)** **(1)** **(1)**

GCSE Exam Questions: How to Calculate Surface Area Answers

	Question	Answer	Marks
4) (a)	This box has a volume of $1920cm^3$. Work out the surface area of the box.  	**(a)** Areas of rectangles: $240cm^2$, $160cm^2$, $96cm^2$ Total surface area: $240 + 240 + 160 + 160 + 96 + 96$ $= 992cm^2$	**(1)** **(1)**
(b)	This box also has a volume of $1920cm^2$. Is the surface area of this box the same as the box above? Show how you decide.  	**(b)** Surface area: $240 + 240 + 240 + 240 + 64 + 64$ $= 1088cm^2$ No	**(1)** **(1)**

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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