

Name: \_\_\_\_\_

Exam Style Questions

# Pressure



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

## Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

# Video 385



1. Find the pressure exerted by a force of 8000 newtons on an area of 25m<sup>2</sup>.  
Give your answer in newtons/m<sup>2</sup>



.....newtons/m<sup>2</sup>  
(2)

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2. A crate exerts a force of 120 newtons on a table.  
The pressure on the table is 15 newtons/m<sup>2</sup>.



Calculate the area of the crate that is in contact with the table.  
Include suitable units.

.....  
(3)

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3. A box is placed on the floor.



The area of the box in contact with the floor is 2.4m<sup>2</sup>  
Pressure exerted on the floor 16 newtons/m<sup>2</sup>

Work out the force exerted by the box on the floor.

.....N  
(2)

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4. An object is placed on a table.  
It exerts a force of 22 newtons on the table.



The pressure on the table is 500 newtons/m<sup>2</sup>.  
Calculate the area of the crate that is in contact with the table.  
Include suitable units.

.....  
(3)

5. Find the pressure exerted by a force of 240 newtons on an area of 30cm<sup>2</sup>.  
Give your answer in newtons/m<sup>2</sup>



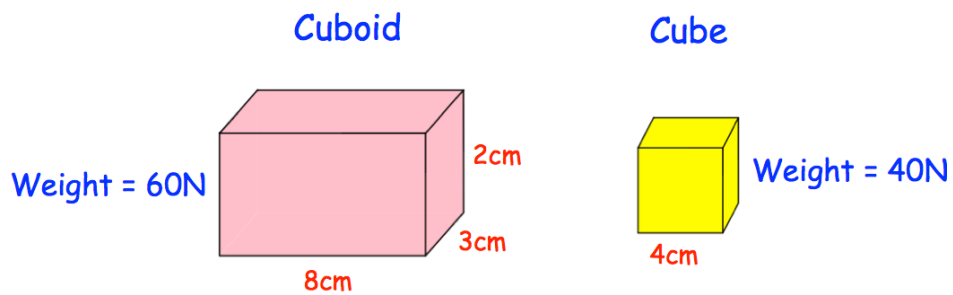
.....newtons/m<sup>2</sup>  
**(2)**

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6. The cuboid and the cube below are placed on the floor.



The cuboid has a weight of 60N  
The cube has a weight of 40N



Which exerts a greater pressure on the ground?  
You must show your working.

.....  
**(4)**

7. A television is placed on a table.



The area of the television in contact with the table is  $750\text{cm}^2$ .  
The pressure on the table is  $1760\text{ newtons/m}^2$ .

Work out the force exerted by the television on the table.

.....N  
(3)

8. A cylinder is placed on the ground.



The cylinder has a weight of  $85\text{N}$  and has a radius of  $2\text{cm}$ .

Work out the pressure on the ground in  $\text{newtons/cm}^2$

.....N  
(3)

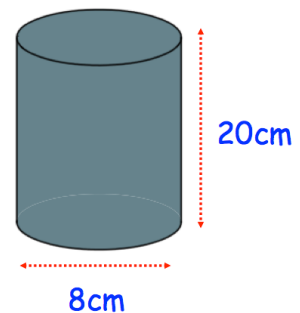
9. A lead rod is placed on a table.



The rod is a cylinder with diameter  $8\text{cm}$  and height  $20\text{cm}$ .

The force exerted on the table is  $111.72\text{ newtons}$ .

Work out the pressure in  $\text{newtons/m}^2$



..... $\text{newtons/m}^2$   
(4)

10. The pressure of a tyre is 34 pounds per square inch.



Given 1 pound = 0.4536 kilograms  
1 inch = 2.54 centimetres



Work out the pressure in grams per square centimetre.

.....g/cm<sup>2</sup>  
**(3)**

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11. The pressure of a football is 500 grams per square centimetre.



Given 1 pound = 0.4536 kilograms  
1 inch = 2.54 centimetres



Work out the pressure in pounds per square inch.

.....psi  
**(3)**

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12. A square based pyramid, with a perpendicular height of 15cm is placed on a table.



The weight of the pyramid is 70.56N.  
The pyramid exerts a pressure of 4900N/m<sup>2</sup> on the table.

Work out the volume of the square based pyramid.

.....cm  
**(5)**