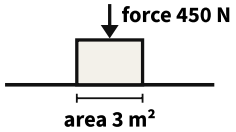
Pressure

ANSWERS

1

A trunk pushes down with 450 N on an area of 3 m². Find the pressure.



Area (m²)	1	× 3 →	3
Force (N)	150		450

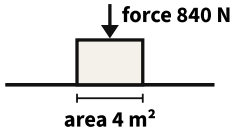
pressure is the force on 1 m²

pressure = 450 ÷ 3 = 150 N/m²

Answer 150 N/m²

2

A cabinet pushes down with 840 N on an area of 4 m². Find the pressure.



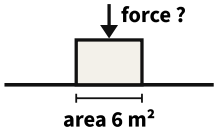
Area (m²)	1	× 4 →	4
Force (N)	210		840

pressure = 840 ÷ 4 = 210 N/m²

Answer 210 N/m²

3

A greenhouse puts a pressure of 90 N/m² on an area of 6 m². Find the force.



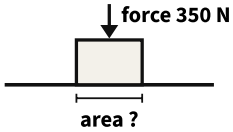
Area (m²)	1	× 6 →	6
Force (N)	90		540

force = 90 × 6 = 540 N

Answer 540 N

4

A hay bale pushes down with 350 N. The pressure is 70 N/m². Find the area.



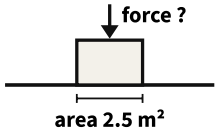
Area (m²)	1	× 5 →	5
Force (N)	70		350

area = 350 ÷ 70 = 5 m²

Answer 5 m²

5

A paddling pool puts a pressure of 400 N/m² on an area of 2.5 m². Find the force.

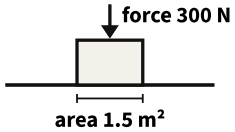


force = 400 × 2.5 = 1000 N

Answer 1000 N

6

A box pushes down with 300 N on an area of 1.5 m². Kai works out 1.5 ÷ 300 and says the pressure is 0.005 N/m². Explain Kai's mistake, then find the pressure.

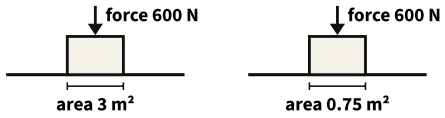


he divided the wrong way round, 300 ÷ 1.5

Answer 200 N/m²

7

A block pushes down with 600 N. Face P has an area of 3 m² and face Q has an area of 0.75 m². Which face gives the greater pressure when the block rests on it?

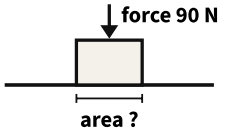


P: 600 ÷ 3 = 200 N/m², Q: 600 ÷ 0.75 = 800 N/m²

Answer face Q

8

A floor mat pushes down with 90 N. The pressure is 60 N/m². Find its area.



area = 90 ÷ 60 = 1.5 m²

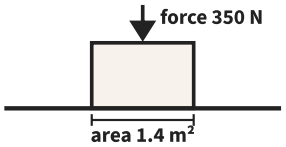
Answer 1.5 m²

Pressure *further practice*

ANSWERS

9

A dog kennel pushes down with 350 N on an area of 1.4 m^2. Find the pressure.



350 ÷ 1.4

Answer 250 N/m^2

10

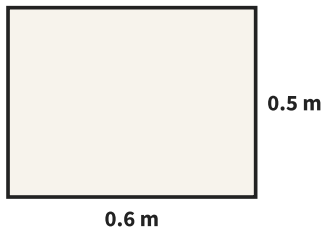
Complete the table.

	Force (N)	Area (m^2)	Pressure (N/m^2)
Lamp	24	0.2	120
Crate	400	2.5	160
Desk	450	1.5	300

the force on 1 m^2 is the pressure

11

A fridge pushes down with 900 N.
Its base is this rectangle.
Find the pressure under the fridge.



0.6 × 0.5 = 0.3 m^2, 900 ÷ 0.3

Answer 3000 N/m^2

12

Box X pushes down with 500 N on an area of 2 m^2. Box Y pushes down with 360 N on an area of 1.2 m^2. Which box puts the greater pressure on the floor?

X: 250 N/m^2, Y: 300 N/m^2

Answer Box Y

13

A chair pushes down with 240 N.
It stands on 4 legs, and each leg touches the floor on an area of 0.01 m^2.
Find the pressure on the floor.

4 × 0.01 = 0.04 m^2, 240 ÷ 0.04

Answer 6000 N/m^2

14

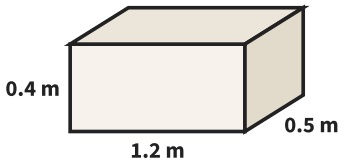
A lawn can take a pressure of up to 2000 N/m^2 without marking.
A garden roller pushes down with 700 N.
What is the smallest area the roller can rest on?

700 ÷ 2000

Answer 0.35 m^2

15

This block pushes down with 720 N.
It can rest on any of its faces.
Find the smallest pressure it can put on the ground.



biggest face 1.2 × 0.5 = 0.6 m^2,
720 ÷ 0.6

Answer 1200 N/m^2

16

Stool A pushes down with 300 N on an area of 0.25 m^2. Stool B pushes down with 480 N on an area of 0.4 m^2.
Ella says stool B puts more pressure on the floor because it pushes down harder.
Is she right? Explain.

A: 300 ÷ 0.25 = 1200,
B: 480 ÷ 0.4 = 1200 N/m^2

Answer No, they are the same