PRESSURE, FORCE AND AREA – PRACTICE QUESTIONS
CALCULATOR ALLOWED

1. Find the pressure exerted by a force of 600 Newtons on an area of 30 m².
   Give your answer in N/m².

2. An object is placed on a floor.
   The area of the object in contact with the floor is 3 m².
   The pressure exerted by the object is 15 N/m².

   Find the force exerted by the object on the floor, in Newtons.

3. A box exerts a force of 240 Newtons on a table.
   The pressure exerted on the table is 80 N/m².

   Find the area of the box in contact with the table, in m².

4. Find the pressure exerted by a force of 72 Newtons on an area of 6 m².
   Give your answer in N/m².
5. An object exerts a force of 800 Newtons on a floor. The pressure exerted on the floor is 160 N/m². Find the area of the object in contact with the floor, in m².

6. An object is placed on a table. The area of the object in contact with the table is 1.8 m². The pressure exerted by the object is 60 N/m². Find the force exerted by the object on the table, in Newtons.

7. A crate is placed on a pallet. The crate exerts a force of 1,200 Newtons on the pallet. The area of the crate in contact with the pallet is 16 m². Find the pressure exerted by the crate on the pallet, in N/m².

8. A dumbbell is placed on a floor. The area of the dumbbell in contact with the floor is 0.4 m². The pressure exerted by the safe is 190 N/m². Find the force exerted by the dumbbell on the floor, in Newtons.
9. Pictured below is a box.

The force exerted by the box on the floor is 9 Newtons.

Find the pressure exerted by the box on the floor, in N/cm².

10. Pictured below is a box.

The pressure exerted by the box on the floor is 1.2 N/cm².

Find the force exerted by the box on the floor, in Newtons.
11. Pictured below is a cylinder.

The pressure exerted by the cylinder on the floor is 17.5 N/m².

Find the force exerted by the cylinder on the floor, in Newtons.
Give your answer to 2 significant figures.

12. Pictured below are two objects – Object A and Object B.

The force exerted by Object A on the floor is 1,980 Newtons.
The force exerted by Object B on the floor is 1,850 Newtons.

Which object exerts the largest pressure on the floor – Object A or Object B?
13. Pictured below is a cube.

![Cube Diagram]

The cube exerts a pressure of 0.033 N/cm² on the ground.

Find the force exerted by the cube on the ground, in Newtons. Give your answer to 3 significant figures.

14. Pictured below is a cuboid.

![Cuboid Diagram]

The cuboid exerts a pressure of 1.2 N/cm² and a force of 1,550 Newtons on the ground.

Find x, to 2 significant figures.
15. Pictured below is a cylinder.

![Cylinder diagram with height 57 cm]

The cylinder exerts a pressure of 98 N/m² and a force of 2,535 Newtons on the ground.

Find the volume of the cylinder, giving your answer in m³ to 2 significant figures.

16. Pictured below is a cuboid.

![Cuboid diagram with height 76 cm]

The cuboid exerts a pressure of 0.88 kiloPascals (kPa) and a force of 4,500 Newtons on the ground.

1 kPa = 1,000 N/m²

Find the volume of the cuboid, giving your answer in m³ to 3 significant figures.