L. N. Coakley Science Department

Pressure in Solids and Liquids Worksheet.

Name:_____ Date:_____ Grade_____.

1. How do we calculate pressure?
   a) Pressure = weight x area
   b) Pressure = mass / area
   c) Pressure = force / area

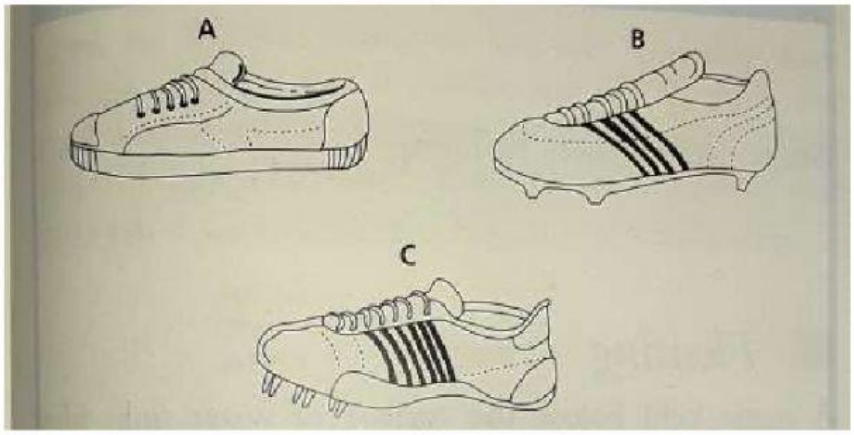
2. What is one Pascal equivalent to?
   a) 10 N/m^2
   b) 1 N/m^2
   c) 10 N/m^3

3. How can we increase pressure?
   a) Reducing surface area
   b) Increasing surface area
   c) Reducing force

4. Where is the pressure greatest in a liquid?
   a) At the bottom
   b) At the top
   c) In the middle

5. What exerts a greater pressure?
   a) More of a denser liquid
   b) More of a less dense liquid
   c) Less of a less dense liquid

6. A student investigated the grip of three types of sports shoe shown in the figure bellow.



a) Describe how the student can measure the area of contact between shoe A and the ground.

_____

_____

_____.

b) A girl is wearing a pair of shoes like A. she weighs 550 N. The area of contact for shoe A is 160 cm^2. Calculate the pressure exerted on the ground by the girl.

Known: **Formula:** **Substitution:**

W =

A =

Unknown:

The pressure exerted by the girl is _____ Pa.

c) Explain why shoe C should not be worn in a gym.

_____

_____.

7. What is the pressure on a surface when a force of 50 N acts on an area of:

	Area m^2
1)	2.0
2)	100
3)	0.50 ?

Work out:

Known: **Formula:** **Substitution:**

A =

F =

Unknown:

The pressure exerted on the surface 1 is _____ Pa.

Known: **Formula:** **Substitution:**

A =

F =

Unknown:

The pressure exerted on the surface 2 is _____ Pa.

Known: **Formula:** **Substitution:**

A =

F =

Unknown:

The pressure exerted on the surface 3 is _____ Pa.

8. A pressure of 10 Pa acts on an area of 3 m^2. What is the force acting on the area?

Known: **Formula:** **Substitution:**

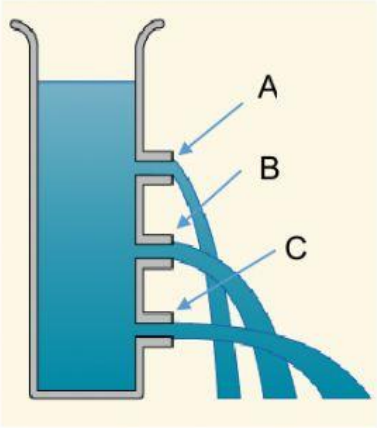
A =

P =

Unknown:

The force acting on the area is _____ N.

9. In the figure bellow water spurts out faster and furthest from the lowest hole. Explain why that happens?



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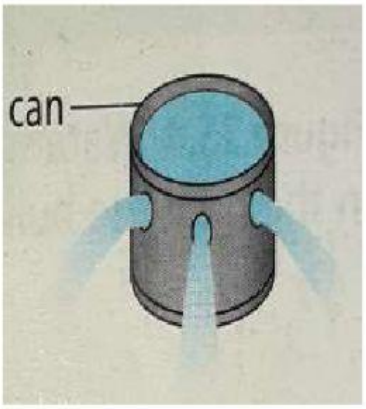
10. In the figure the can of water has similar holes all around at the same level. Why the water comes out equally fast and equally far from each hole?



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