

Pascal's principle

Total questions: 12

Worksheet time: 6mins

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1. Pascal states that

- a) Pressure is force per unit area
- b) When velocity is higher, the pressure is lower
- c) When force is applied, the pressure is transmitted equally through the fluid
- d) Pressure transmitted is directly proportional to the force applied

2. Which object involving pascal principle

a)



b)



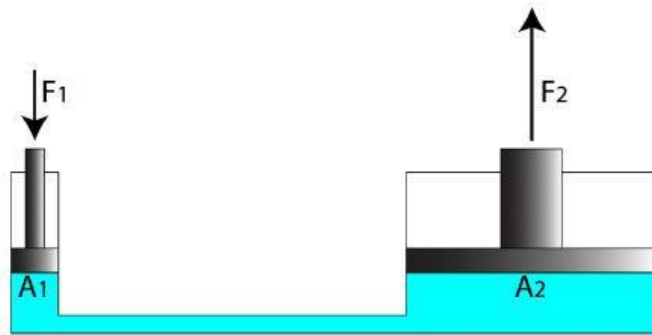
c)



d)



3.



Which comparison is correct

- a) $F_1 = F_2$
- b) $P_1 > P_2$
- c) $F_1 > F_2$
- d) $P_1 = P_2$

4. Pressure can be measured in Pascals (Pa) or Newtons per square meter.
 $1 \text{ Pa} = 1 \text{ N/m}^2$

- a) True
- b) False

5. As the area a force acts on increases, the force exerted on each unit of area

- a) increases
- b) decreases
- c) remains constant

6.

Pressure = $\frac{\text{Force (down)}}{\text{Area (left piston)}}$

Force up = Pressure x Area of right piston

Multiplied = $\frac{\text{Force Up}}{\text{Force Down}}$

The diagram shows a U-shaped tube filled with a grey fluid. On the left side, there is a piston with a surface area of 2.5 m^2 and a downward force of 1210 Newtons is applied to it. On the right side, there is a piston with a surface area of 16 m^2 and a weight of 8000 N is applied to it.

What is the **pressure** in the hydraulic fluid?

- a) 1210 N
- b) 484 N/m^2
- c) 8000 N
- d) 3025 N/m^2

7. What is the greatest benefit of using hydraulics?

- a) The multiplication of speed
- b) The multiplication of operating time
- c) The multiplication of fuel efficiency
- d) The multiplication of force

