

**Pascal's principle**

Total questions: 13

Worksheet time: 7mins

## 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)



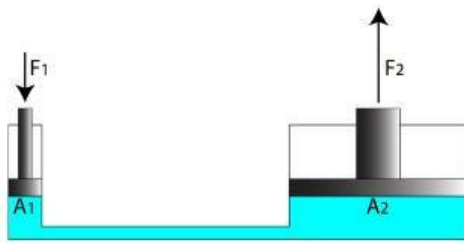
c)



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.

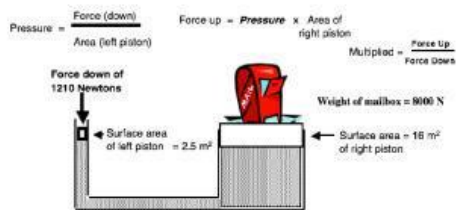
$$1 \text{ Pa} = 1 \text{ N/m}^2$$

- 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.



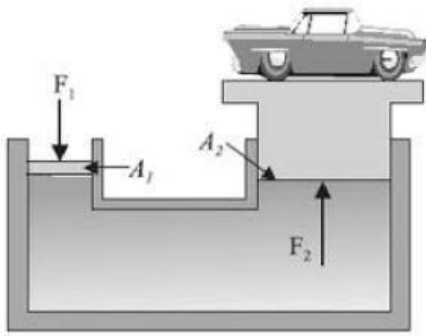
What is the **pressure** in the hydraulic fluid?

- a) 1210 N
- b)  $484 \text{ N/m}^2$
- c) 8000 N
- d)  $3025 \text{ N/m}^2$

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

8.



In a car lift, compressed air exerts a force,  $F_1$  on a small piston having a radius of 5.5 cm. This pressure is transmitted to a second piston of radius 20 cm as shown in figure above. The mass of the car is 1250 kg. Calculate the pressure on the smaller piston  $F_1$ .

- a) 6.25 kPa
  - b) 61.31 kPa
  - c) 97.57 kPa
  - d) 306.56 kPa
9. **The basic idea behind any hydraulic system is very simple: Force that is applied at one point is transmitted to another point using\_\_\_\_\_**
- a) A compressible fluid
  - b) An incompressible fluid
  - c) A cold compress
  - d) A hot compress
10. The buoyant force acting on an object is equal to the...
- a) mass of the liquid displaced by the object
  - b) weight of the fluid displaced by the object
  - c) mass of the solid
  - d) sum of the weight of the solid and liquid displaced
11. Archimedes Principle is the law of what?
- a) Buoyancy
  - b) Fluids
  - c) Mass
  - d) Matter
12. The buoyancy force always opposes...
- a) Fire
  - b) Water
  - c) Gravity
  - d) Air
13. what the principle from pascals' law
- a) Submarine
  - b) hydraulic jack
  - c) Ship
  - d) kettle