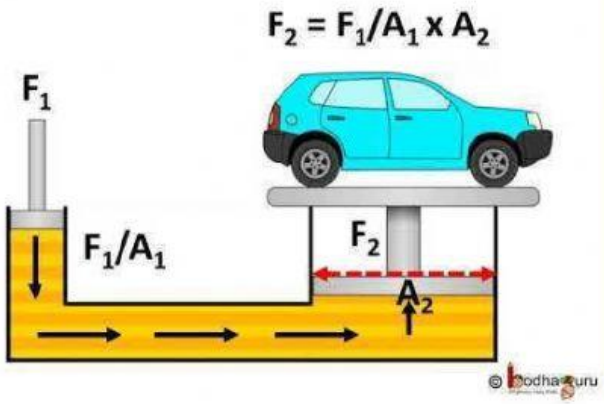
# Pascal's principle




**A hydraulic lift is used to lift a heavy machine that is pushing down on a 2.8 $m^2$ platform with a force of 3,700 N. what force must be exerted on a 0.072 $m^2$piston to lift the heavy machine?**

**List the Knowns:** **List the unknowns:**

A1 =

A2 =

F1 =

F2 : ?

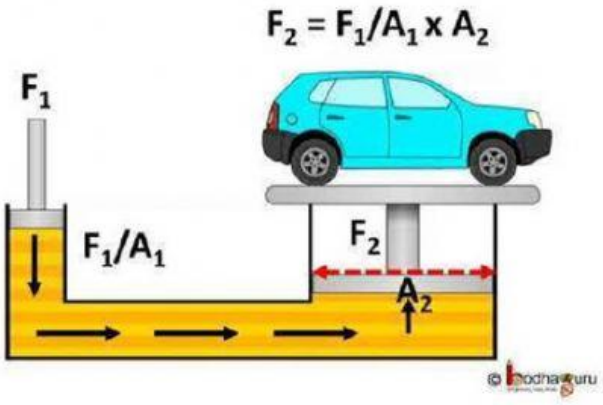
$$\frac{F1}{A1} = \frac{F2}{A2}$$

**Pascal's principle**

$$\frac{F1}{A2} = \frac{F2}{A1}$$

**Answer:**

A car weighing 15,000 N is on a hydraulic lift platform measuring 10 $m^2$. What is the area of the smaller piston if a force of 1,100 N is used to lift the car?




**List the Knowns:** **List the unknowns:**

F1 =

A2 =

F2 =

A1 ?

**Pascal's principle**

$$\frac{F1}{A1} = \frac{F2}{A2}$$

$$\frac{F1}{A2} = \frac{F2}{A1}$$

**Answer:**