

PRESSURE WORKSHEET

TO CALCULATE THE PRESSURE (p), USE THE EQUATION $p = F / A$ WHERE "F" EQUALS THE FORCE APPLIED AND "A" EQUALS THE AREA (which is L X W). BE SURE TO WRITE THE EQUATION AND ALL UNITS.

1. Calculate the pressure on a man's foot when a woman who weighs 130 lb steps on his foot with her heel which has an area of 0.5 in² with all her weight.
2. Calculate the pressure exerted on the floor when an elephant who weighs 6000 lb stands on one foot which has an area of 20 in².
3. Calculate the pressure exerted on the heel of a boy's foot if the boy weighs 80 N and he lands on one heel which has an area of 16 cm².
4. How much must a woman weigh (force) if the pressure she exerts while standing on one foot which has an area of 30 in² exerts a pressure of 4 lb/ in² ?

5. What is the area of a car tire that touches the road if the car's weight on that tire is 768 lb and the pressure exerted on the road is 12 lb / in² ?

6. Calculate the pressure exerted on an elevator floor which is 2 meters deep and 3 meters wide, if 20 people whose combined weight is 1500N are standing on it.

7. How much pressure is exerted on a science lab desk which measures 24 inches deep and 30 inches long by the air column above it pushing down with a weight of 10,584 lb.

8. How much pressure will be exerted on a diver's body which has an area of 500 in², if the water column above him weighs 30,000 lb ?