

Question #34899

what is the net force of a 60 pound force that is pushing left against a 40 pound force pushing right

Solution:

The net force is as vector sum of the forces due on the body

$$\vec{F}_n = \vec{F}_1 + \vec{F}_2$$

Such as two forces have an opposite directions the magnitude of net force is as the algebraic difference of forces and have direction of larger force (to the left)

$$|\vec{F}_n| = |\vec{F}_1| - |\vec{F}_2|$$

$$|\vec{F}_n| = 60 - 40 = 20 \text{ pound}$$

**Answer:**

**The net force is 20 pounds to the left.**