

**PHYSICS****NET FORCE****Definition:**

Ex: Applied forces of 10 N [E] and 20 N [E] are acting on a 20 kg block of wood. What is the net applied force on the block?

Ex: Applied forces of 10 N [E] and 20 N [W] are acting on a 20 kg block of wood. What is the net applied force on the block?

**PHYSICS****NET FORCE**

Ex: Applied forces of 10 N [E] and 20 N [W] are acting on a 20 kg block of wood. Then, a child comes along and pulls 5 N [S]. What is the net applied force on the block?



PHYSICS

NET FORCE

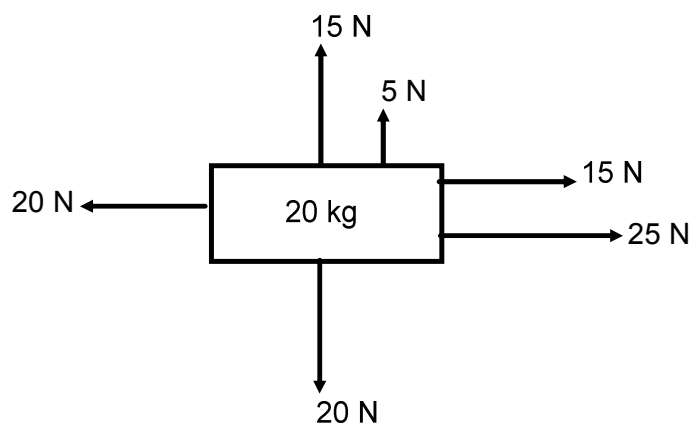
Calculating Acceleration Using Force**Formula:**

$$F_{NET} = ma$$

 F_{NET} - m - a -

Ex: Using the 20 kg block example. Calculate the wood's acceleration.

Calculate the acceleration of this object.



**PHYSICS****NET FORCE**SUMMARY

- Net force is the vector summation of all the forces acting on an object.
- The result of the summation is called *the unbalanced force*.
- If the Net Force is equal to **ZERO**, then the object is moving at **constant speed** and is not accelerating (also could be stationary).
- If an unbalanced force exists, then the object will **accelerate** in the direction of the unbalanced force as per the formula:

$$\mathbf{F = ma}$$

**PHYSICS****NET FORCE**

Ex: A 25 kg object is accelerating at a rate of 5 m/s^2 [R]. If the friction coefficient between the object and the ground is 0.35, what is the applied force pulling the object?



PHYSICS

NET FORCE - Homework

Homework

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Pg. 122 #15

Pg. 126 #5

Pg. 129 #13

Pg. 133 #1-6