

### Answer on Question #58672-Physics- Mechanics | Relativity

How does the acceleration of a cart depend on the net force acting on the cart if the total mass is constant?

#### Answer

According to Newton's second law of motion, acceleration and mass are proportional to force. Thus,

$$F_{net} = ma$$

The net force is mass multiplied by acceleration.

$$a = \frac{F_{net}}{m}.$$

If mass is constant, acceleration and net force will increase or decrease proportionally to each other.