

1. Newton's Second Law tells us how to calculate the acceleration if we know the force and the mass.

$$F = m a$$

We are interested in determining the acceleration, so we divide both sides of the equation by m to get

$$F / m = a$$

$$a = (20 \text{ N}) / (5 \text{ kg})$$

$$a = 4 \text{ N} / \text{kg} = 4 (\text{kg m} / \text{s}^2) / \text{kg} = 4 \text{ m} / \text{s}^2$$