

Let's Calculate.....

Use one of the following equations to solve the problems. Show all work.

1. How much force is needed to accelerate a 70-kg rider and her 200-kg motorcycle at 4 m/s^2 ?

2. It takes a force of 3000 N to accelerate an empty 1000-kg car at 3 m/s^2 . If a 160-kg wrestler is inside the car, how much force will be needed to produce the same acceleration?

3. A 63-kg skater pushes off from a wall with a force of 300 N. What is the skater's acceleration?

4. A weightlifter raises a 440-kg barbell with an acceleration of 2 m/s^2 . How much force does the weightlifter exert on the barbell?

5. You apply a force of 50 N to lift a package with a mass of 34 kg. Calculate the resulting rate of acceleration of the package.

6. The motion of a 12-kg object is opposed by a 30 N force of friction. At what rate does friction slow the object down?