7. a) The acceleration is calculated using Newton's Second Law as

$$a = F / m$$

$$a = 200 \text{ N} / 40 \text{ kg}$$

$$a = 5 \text{ m} / \text{s}^2$$

b) The force remains the same as in the first part of the problem but the mass is doubled so we obtain

$$a = F / m$$

$$a = 200 \text{ N} / 80 \text{ kg}$$

$$a = 2.5 \text{ m} / \text{s}^2$$

Note that the acceleration on twice the mass by a given force is one half the acceleration calculated in the first part of the problem.