**PreQuiz 4.1**

**Dynamics**

Name

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1. A 362 gram object experiences an unbalanced force of 2.31 N. What is its acceleration? (6.38 m/s/s)

2. A 0.459 kg ball stops from +31 m/s in a distance of +0.17 m. What net force acted on the ball? What direction is the force? (-1297 = -1300 N (opposite original direction of ball))

3. Tycho exerts a force of 23 N sideways on a box and it moves at a constant speed. When he exerts 47 N of force, the box accelerates at 5.2 m/s/s in the direction he pushes. What is the box’s mass? (4.6 kg)

4. A 1217 kg elevator moving upward stops with an acceleration of 3.45 m/s/s. What must be the tension in the supporting cable as it is stopping? (7727.95 ≈ 7730 N)

5. There is a coefficient of kinetic friction of 0.21 between a 12 kg box and the floor. What force to the right would make the box slide to the right and accelerate to the right at 4.5 m/s/s? (78.696 ≈ 79 N to the right)