**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. When Tycho exerts 47 N of force on a 4.6 kg box, it accelerates at 5.2 m/s/s in the direction he pushes. What is the coefficient of friction between the box and the floor? (0.51)

4. A 1217 kg elevator moving 5.2 m/s downward stops in 1.17 s. What must be the tension in the supporting cable as it is stopping? (17,347 ≈ 17,000 N)

5. A 63.0 kg mass accelerates at 2.16 m/s/s down (The mass is sliding down the incline as well) a 35.0o incline where the coefficient of kinetic friction is 0.150. What external force must be acting along the plane for this to happen? What direction is the force? (142 N up the plane)