

1. a) Draw a free-body diagram of a ball falling to the ground after it reached its maximum height in the air. Assume that there is no air resistance or any other obstacle in the path of the ball.

b) Draw a free-body diagram of a ball that is falling to the ground and experiencing air resistance of 3.0 N [up].

2. Draw a free-body diagram of a box that is pushed along a strictly horizontal surface with force of 200 N. The surface is not frictionless and the box is experiencing a force of friction of 40 N.

3. State Newton's First Law:

4. What do you know about an object that is in equilibrium?

5. What is inertia?

6. Will a 1000 kg car have a smaller or greater inertia than a 1800 kg truck if the car moves at 110 km/h and the truck only goes 75 km/h?

7. State Newton's Second Law.

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8. What does "the acceleration of an object is inversely proportional to the mass of the object" mean?

9. Have you read your notes or studied from the textbook recently?

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