

Name _____

Newton's Second Law Problems

Solve each of the problems below using the formulas we learned from Newton's Second Law. Show your work for each of the problems using our 3-step process. Round your answers to the nearest hundredth if necessary. Circle your answer. Use the correct units (m/s/s, N, or kg). Choose from the following equations:

$$a = F/m$$

$$F = m \cdot a$$

$$m = F/a$$

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| <p>1. A 50 kg skater pushes off from a wall with a force of 200 N. What is the skater's acceleration?</p> <p>2. What is the mass of an object if a force of 136 N produces an acceleration of 4 m/s/s?</p> <p>3. A 2000 kg truck accelerates at a rate of 32 m/s/s. How much force was required for this?</p> | <p>4. A 4300 N force causes an object to move with an acceleration of 27.4 m/s/s. What is the mass of the object?</p> <p>5. What is the acceleration of a 0.058 kg toy when a 0.8 N force is applied to it?</p> <p>6. What is the force of <u>gravity</u> acting on a 54.5 kg person? (be careful...what is acceleration due to gravity?)</p> |
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