

Name \_\_\_\_\_

### Newton's Second Law Problems (2)

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:

$$\mathbf{a = F/m}$$

$$\mathbf{F = m \cdot a}$$

$$\mathbf{m = F/a}$$

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| <p>1. A 45 kg skater pushes off from a wall with a force of 270 N. What is the skater's acceleration?</p> <p>2. A 1500 kg truck accelerates at a rate of 3 m/s/s. How much force was required for this?</p> <p>3. What is the mass of an object if a force of 108 N produces an acceleration of 6 m/s/s?</p> | <p>4. A 17.5 N force causes an object to move with an acceleration of 2.8 m/s/s. What is the mass of the object?</p> <p>5. What is the acceleration of a 0.174 kg toy when a 0.9 N force is applied to it?</p> <p>6. What is the force of <u>gravity</u> acting on a 52.0 kg person? (be careful...what is acceleration due to gravity?)</p> |
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