

Newton's 2nd Law Calculations

<p>1. A skateboarder accelerates at a rate of 5 m/s^2. If the skateboarder has a mass of 60 kg, how much force was required to accelerate the skateboarder?</p> <p>F=</p> <p>m=</p> <p>a=</p>	<p>2. A force of 250 N is applied to an object that accelerates at a rate of 5 m/s^2. What is the mass of the object?</p> <p>F=</p> <p>m=</p> <p>a=</p>
<p>3. A bowling ball rolled with a force of 15 N accelerates at a rate of 3 m/s^2. What is the mass of the bowling ball?</p> <p>F=</p> <p>m=</p> <p>a=</p>	<p>4. A force of 1200 N is applied to an object that accelerates at a rate of 4 m/s^2. What is the mass of this object?</p> <p>F=</p> <p>m=</p> <p>a=</p>
<p>5. A force of 20 N acts upon a 5 kg block. Calculate the acceleration of the object.</p> <p>F=</p> <p>m=</p> <p>a=</p>	<p>6. A 50 kg skater pushed by a friend accelerates 5 m/s^2. How much force did the friend apply?</p> <p>F=</p> <p>m=</p> <p>a=</p>

7. What is the force on a 1000 kg elevator that is falling freely at 9.8 m/s^2 ?

F=

m=

a=

8. A 5 kg block is pulled across a table by a horizontal force of 40 N with a frictional force of 8 N opposing the motion. Calculate the acceleration of the object.

F=

m=

a=

9. What is the acceleration of a 50 kg object pushed with a force of 500 N?

F=

m=

a=

10. If a 60 kg person on a 15 kg sled is pushed with a force of 300 N, what will be the person's acceleration?

F=

m=

a=

