

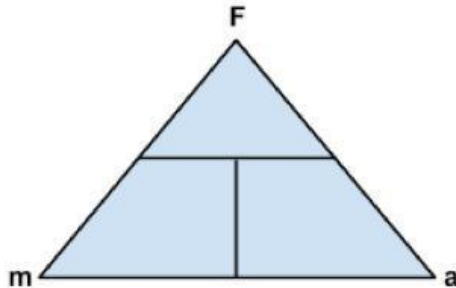
Newton's 2nd Law Calculations

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?

F=

m=

a=

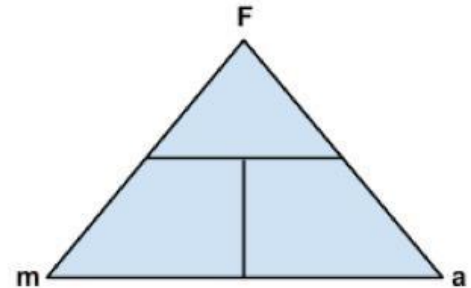


2. A force of 250 N is applied to an object that accelerates at a rate of 5 m/s^2 . What is the mass of the object?

F=

m=

a=

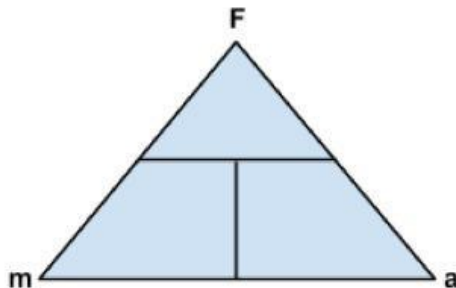


3. A bowling ball rolled with a force of 15 N accelerates at a rate of 3 m/s^2 . What is the mass of the bowling ball?

F=

m=

a=

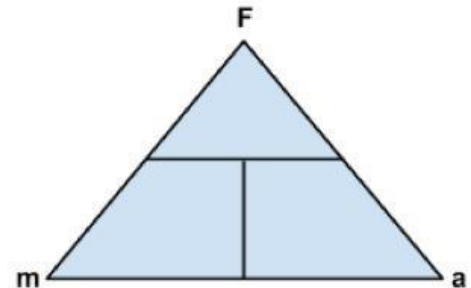


4. A force of 1200 N is applied to an object that accelerates at a rate of 4 m/s^2 . What is the mass of this object?

F=

m=

a=

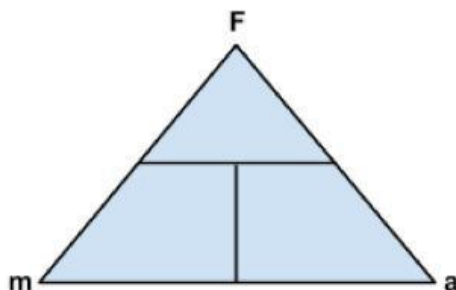


5. A force of 20 N acts upon a 5 kg block. Calculate the acceleration of the object.

F=

m=

a=

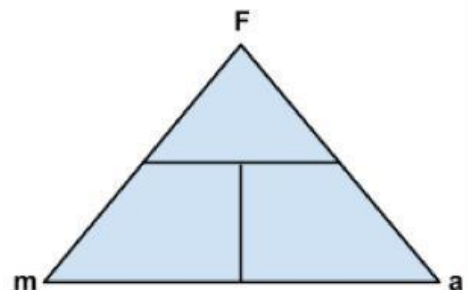


6. A 50 kg skater pushed by a friend accelerates 5 m/s^2 . How much force did the friend apply?

F=

m=

a=

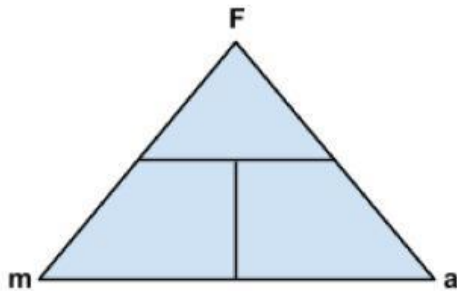


7. What is the force on a 1000 kg elevator that is falling freely at 9.8 m/s^2 ?

F=

m=

a=

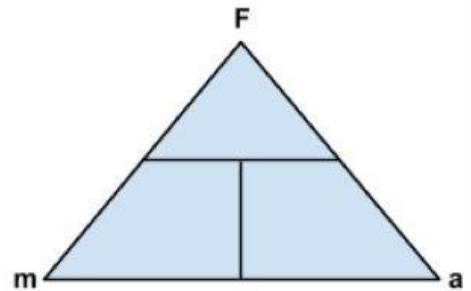


8. A 5 kg block is pulled across a table by a horizontal force of 40 N with a frictional force of 8 N opposing the motion. Calculate the acceleration of the object.

F=

m=

a=

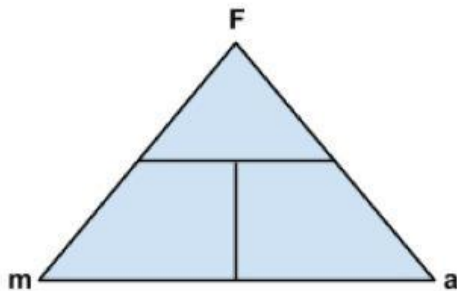


9. What is the acceleration of a 50 kg object pushed with a force of 500 N?

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=

