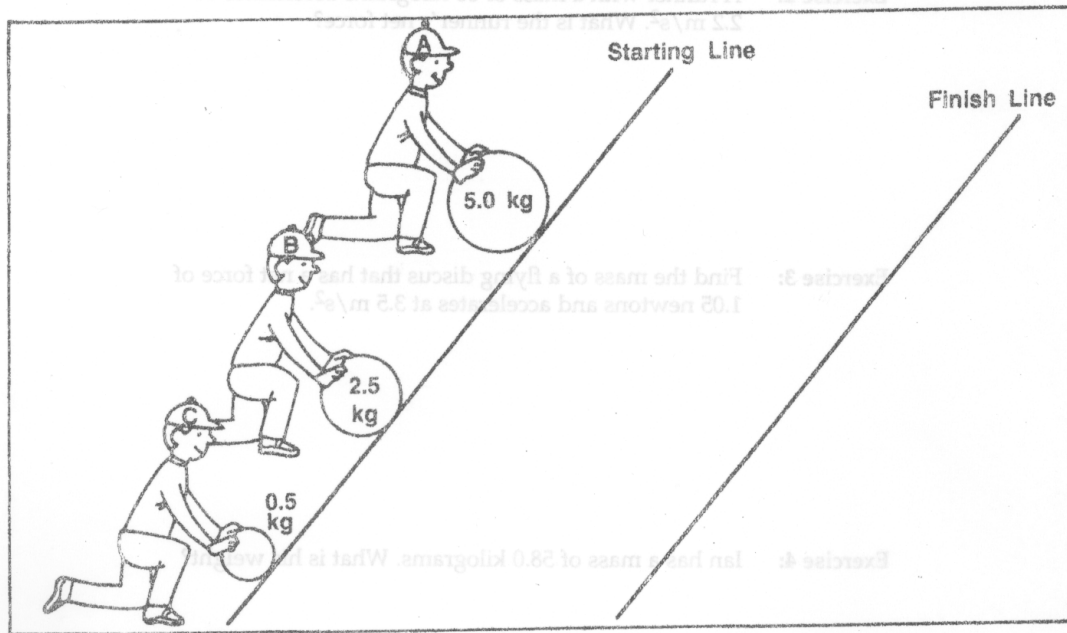
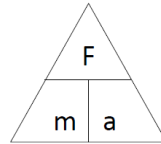


## To the Finish Line

The force applied by contestants A, B, and C is *equal*. The masses of the objects they are pushing are indicated. Based on this information, answer the following questions.

$$F = ma$$



1. The contestant whose object accelerates most is \_\_\_\_\_.
2. The contestant whose object accelerates less than B's is \_\_\_\_\_.
3. The contestant whose object accelerates twice as much as A's is \_\_\_\_\_.
4. The contestant whose object accelerates ten times less than C's is \_\_\_\_\_.
5. Assuming a force of 50 Newtons is applied to each object by each contestant, what is the accelerations of object A? \_\_\_\_\_ B? \_\_\_\_\_ C? \_\_\_\_\_. Show *all* work below.
6. Now suppose the race ends in a tie and all objects have the same acceleration. This means that the force applied to each object is *different*. If the acceleration is  $50 \text{ m/s}^2$ , what force is applied by A? \_\_\_\_\_ By B? \_\_\_\_\_ By C? \_\_\_\_\_. Show *all* work below.