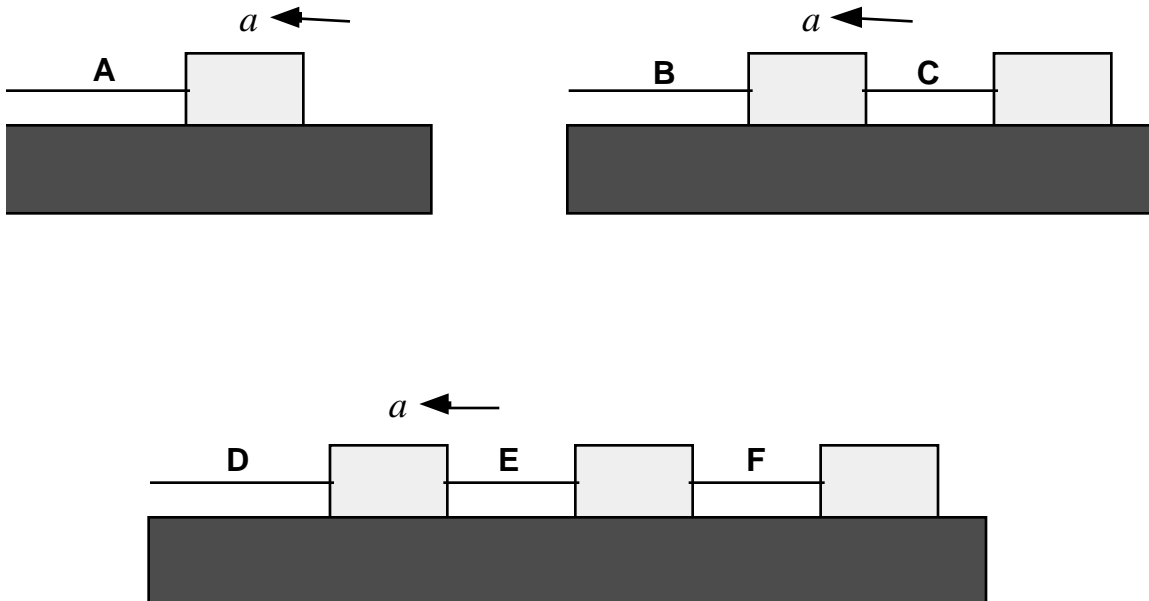


## Ropes Pulling Boxes—Rope Tension <sup>27</sup>

The figures below show boxes that are being pulled by ropes along frictionless surfaces, accelerating toward the left. All of the boxes are identical, and the acceleration is the same in each figure. As you can see, some of the boxes are pulled by ropes attached to the box in front of them.

Rank the ropes from greatest to least on the basis of the tension in the rope.



Greatest 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_ 6 \_\_\_\_\_ Least

Or, all of the tensions will be the same. \_\_\_\_\_

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed

Sure

Very Sure

1      2      3      4      5      6      7      8      9      10

<sup>27</sup> S. Loucks