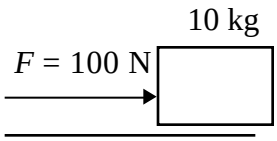
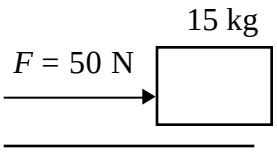
Force Pushing Box—Change in Momentum[80]

Various similar boxes are being pushed for 10 seconds across a floor by a net horizontal force as shown below. The mass of the boxes and the net horizontal force for each case are given in the indicated figures.

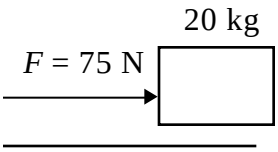
Rank the change in momentum for each box from the greatest change in momentum to the least change in momentum. All boxes have an initial velocity of 0 m/s (+ direction is to the right and - to the left with –4 < -2).



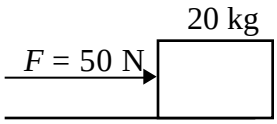
A



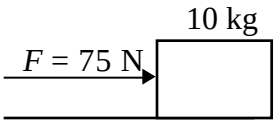
B



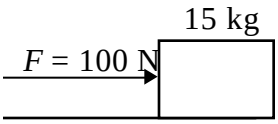
C



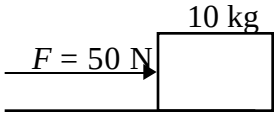
D



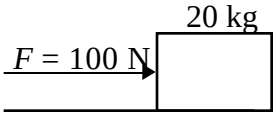
E



F



G



H

Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ Least

Or, all the changes in momentum are 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

[80] T. O'Kuma