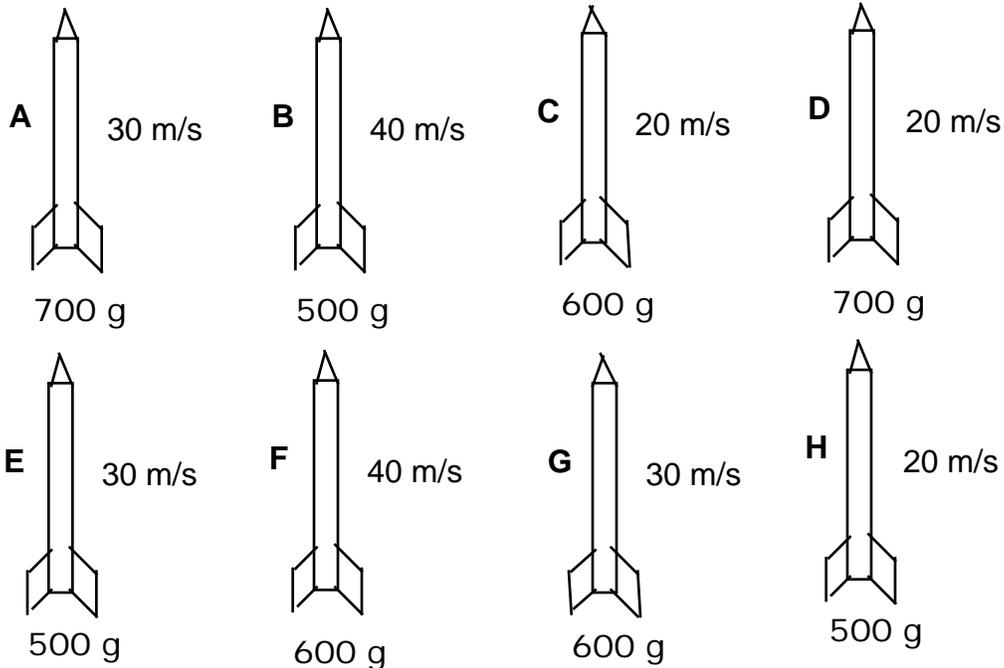


Vertical Model Rockets—Maximum Height ⁶

The eight figures below depict eight model rockets that have just had their engines turned off. All of the rockets are aimed straight up, but their speeds differ. All of the rockets are the same size and shape, but they carry different loads, so their masses differ. The specific mass and speed for each rocket is given in each figure. (In this situation, we are going to ignore any effect air resistance may have on the rockets.) At the instant when the engines are turned off, the rockets are all at the same height.

Rank these model rockets, from greatest to least, on the basis of the maximum height they will reach.



Highest 1_____ 2_____ 3_____ 4_____ 5_____ 6_____ 7_____ 8_____ Lowest

Or, all rockets reach the same height. _____

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

⁶ T. O’Kuma