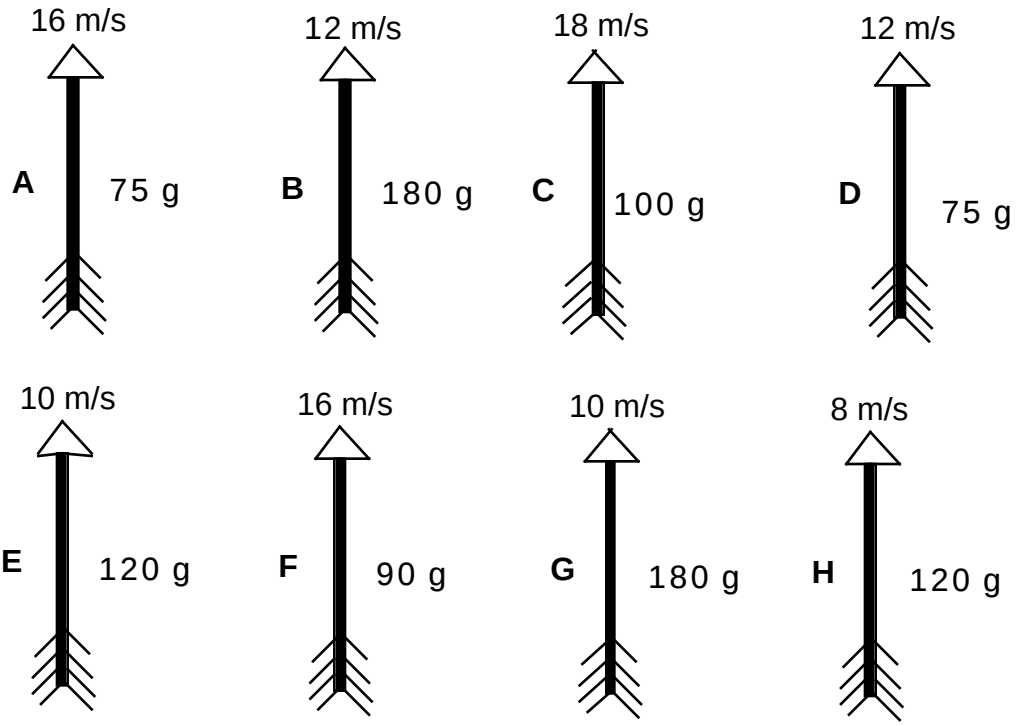
Arrows—Acceleration[19]

The eight figures below show arrows that have been shot into the air. All of the arrows were shot straight up and are the same size and shape. The arrows are made of different materials so they have different masses, and they have different speeds as they leave the bows. The values for each arrow are given in the figures. (We assume for this situation that the effect of air resistance can be neglected.) All start from same height.

Rank these arrows, from greatest to least, on the basis of the acceleration of the arrows at the top of their flight.



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

All arrows have the same acceleration but not zero. _____

The acceleration at the top is zero for all these. _____

Please carefully explain your reasoning.

How sure were you of your ranking?

Basically Guessed				Sure					Very Sure
1	2	3	4	5	6	7	8	9	10

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