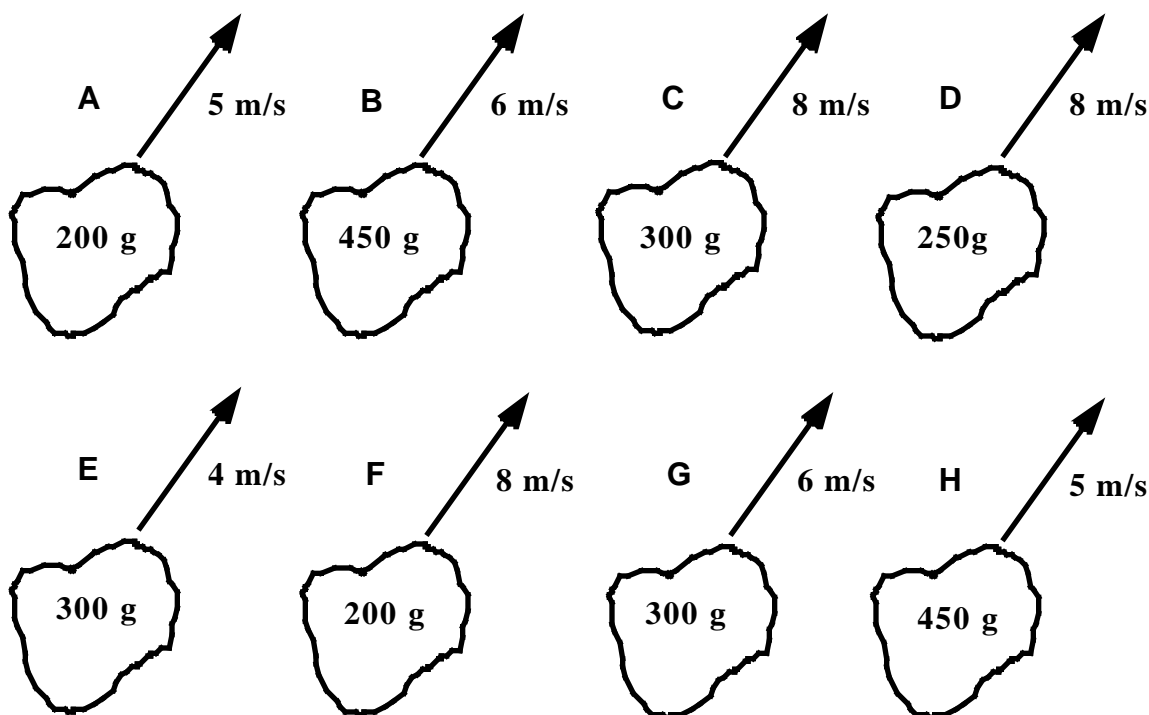# Rock Throw—Maximum Heights [50]

Shown below are eight rocks that have been thrown into the air. The rocks all have the same shape, but they have different masses. The rocks are all thrown at the same angle, but at different speeds. The masses of the rocks and their speeds, when released, are given in the figures. (We assume for this situation that the effect of air resistance can be ignored.) All start from the same height.

Rank these rocks from greatest to least on the basis of the maximum heights the rocks reach.

A 5 m/s   B 6 m/s   C 8 m/s   D 8 m/s

200 g   450 g   300 g   250g

E 4 m/s   F 8 m/s   G 6 m/s   H 5 m/s

300 g   200 g   300 g   450 g

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

Or, all rocks 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