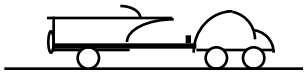
Moving Car and Boat Trailer—Force Difference [29]

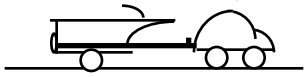
Rank, from greatest to least, on the basis of the difference between the strength (magnitude) of the force the car exerts on the boat trailer, and the strength of the force the boat trailer exerts on the car. All the boat trailers and cars are identical, but the boat trailers have different loads, so the boat trailers masses vary.

A



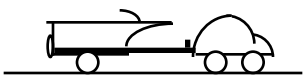
m = 1000 kg v_f = 20 m/s

B



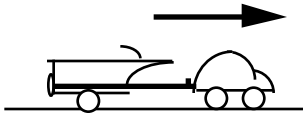
m = 2000 kg v_f = 20 m/s

C



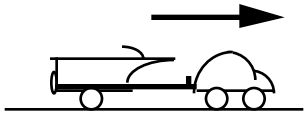
m = 1000 kg v_f = 40 m/s

D



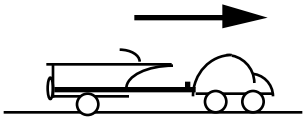
m = 4000 kg v_f = 10 m/s

E



m = 2000 kg v_f = 10 m/s

F



m = 1000 kg v_f = 10 m/s

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

Or, the differences between the two forces are the same in each situation. _____

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

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