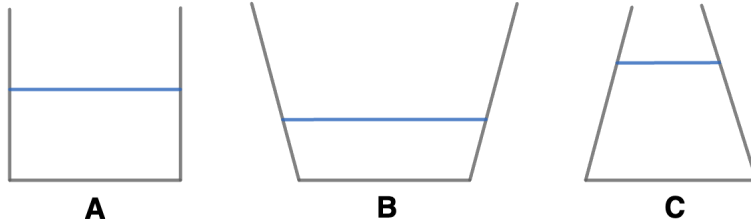


2017 F=ma Exam: Problem 9

Kevin S. Huang



Since an equal volume of water is poured into each flask, the heights h_i of the water satisfy

$$h_B < h_A < h_C$$

because of the shape of each flask. The pressure P_i at the bottom of each flask is given by

$$P_i = P_0 + \rho g h_i$$

so we also have

$$P_B < P_A < P_C$$

Finally, the force $F = PA$ and since all flasks have the same base area,

$$F_B < F_A < F_C$$

so the answer is D.