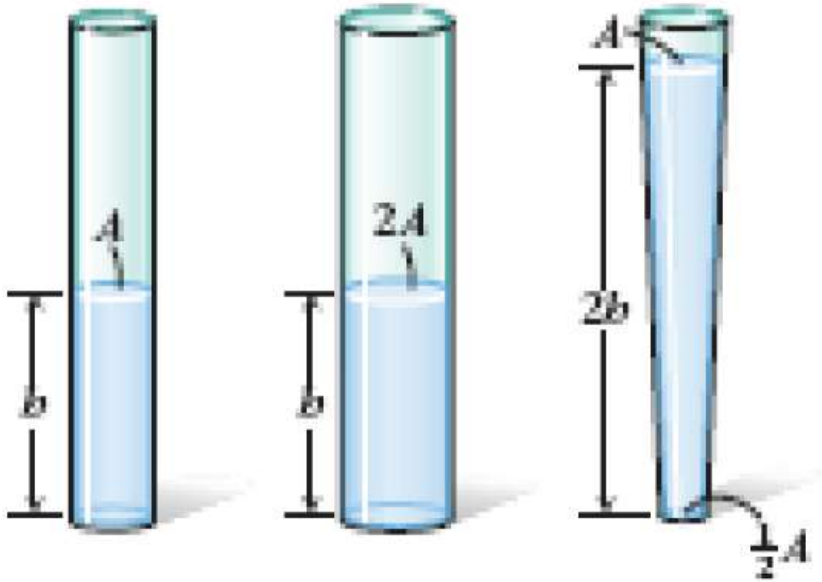
Consider the containers at right. Which of the following correctly compares the *pressure* (P) of the water at the bottoms of the containers?

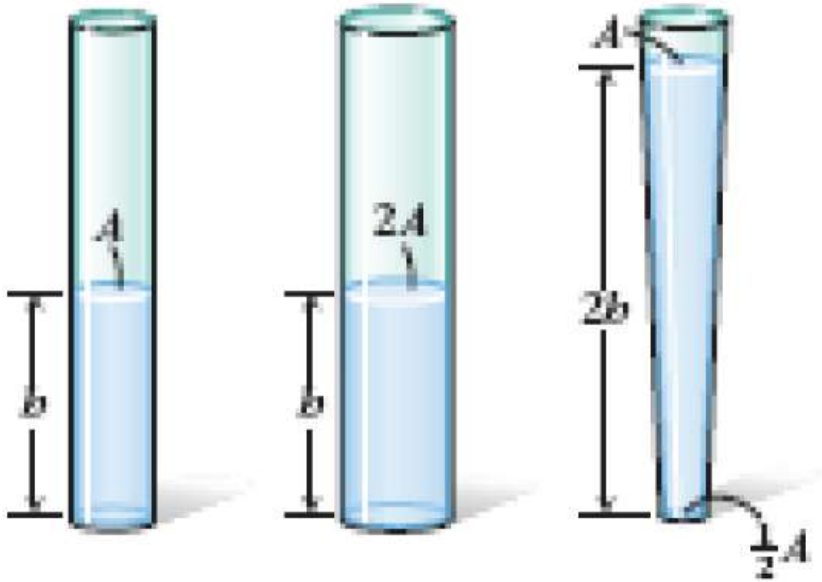
1. $P_1 = P_2 = P_3$
2. $P_3 > P_1 > P_2$
3. $P_3 > P_1 = P_2$
4. $P_2 > P_1 > P_3$
5. $P_1 = P_2 > P_3$
6. $P_2 > P_1 = P_3$
7. None of these



(1) (2) (3)

Consider the containers at right. Which of the following correctly compares the *force* (F) exerted by the water on the bottoms of the containers?

1. $F_1 = F_2 = F_3$
2. $F_3 > F_1 > F_2$
3. $F_3 > F_1 = F_2$
4. $F_2 > F_1 > F_3$
5. $F_1 = F_2 > F_3$
6. $F_2 > F_1 = F_3$
7. None of these

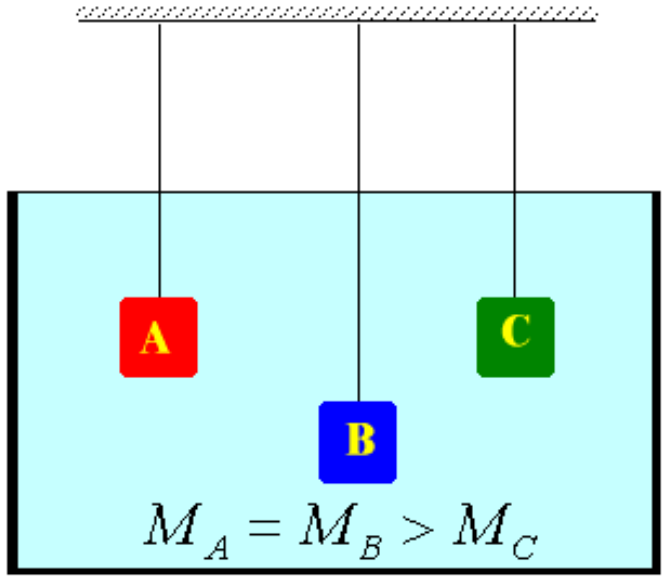


(1) (2) (3)

Three cubes of equal volume are hung on strings. A and B have the same mass and block C has less. The blocks are lowered into a fish tank and they hang at rest as shown.

How does the force exerted by the water on the top surface of cube A compare to the force exerted by the water on the top surface of cube B?

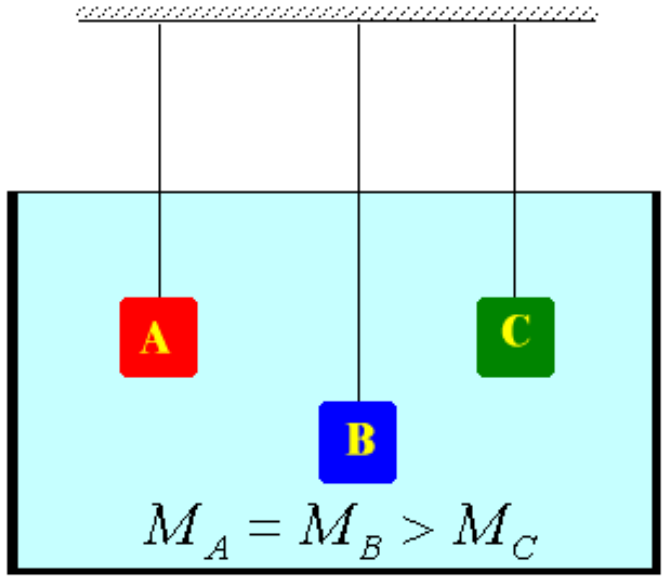
- 1. The force on A is bigger
- 2. The force on B is bigger
- 3. They are the same.



Three cubes of equal volume are hung on strings. A and B have the same mass and block C has less. The blocks are lowered into a fish tank and they hang at rest as shown.

How does the force exerted by the water on the top surface of cube A compare to the force exerted by the water on the top surface of cube C?

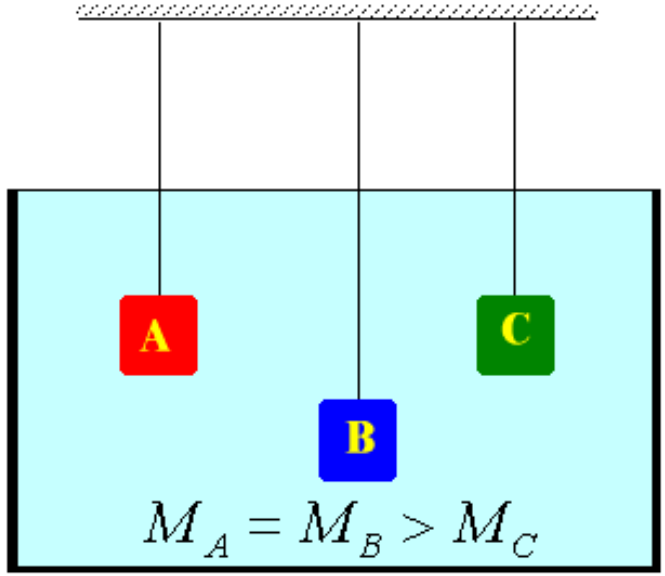
- 1. The force on A is bigger
- 2. The force on C is bigger
- 3. They are the same.



Three cubes of equal volume are hung on strings. A and B have the same mass and block C has less. The blocks are lowered into a fish tank and they hang at rest as shown.

How do the buoyant forces exerted by the water on the three cubes rank?

- 1. $BF_B > BF_A = BF_C$
- 2. $BF_B = BF_A > BF_C$
- 3. $BF_B > BF_A > BF_C$
- 4. $BF_A = BF_B = BF_C$
- 5. Some other ranking



- A ball floats in a beaker of water. The ball sinks in a beaker of mineral spirits. The mineral spirit will float above the water when poured slowly on top of water.
  If the ball is floating on the water 2/3 of the way under the water, what will happen to the ball when mineral spirits is slowly poured on top of the water?
  Relative to the top of the liquid,
  - 1.The ball will go down.
  - 2. The ball will go up.
  - 3. The ball will stay at the same level.