- A narrow tube with a valve connects two soap balloons, one large, one smaller When the valve is opened connecting the two balloons
 - 1. The balloons will even out in size.
 - 2. The larger balloon will grow.
 - 3. You can't tell from the information given.



TurningPoint

http://www.youtube.com/watch?v=yURomiwg9PE&feature=related

A cylinder with a movable piston is filled with a uniform fluid. If the corks are all in equally tightly, which are most likely to pop when we hit the piston with a hammer?



\$3

2

4





- 3. Cork 3
- 4. Cork 4
- 5. Some other combination
- 6. All
- 7. None

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



3

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. $P_1 = P_2 > P_3$ (1) (2) (3)

Physics 131

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 <u>top</u> 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.





Physics 131

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 <u>top</u> 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.





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Physics 131

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 10/26/11 Physics 131





- 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.



