Water rises up a glass capillary tube, when will it stop rising?

1. When the upward adhesive force is balanced by the downward weight force of the water.
2. When the upward surface tension force is balanced by the downward weight force of the water.
3. When the upward cohesive force is balanced by the downward weight force of the water.
4. When the upward capillary force is balanced by the downward weight force of the water.
5. When the pressure inside and outside of the capillary tube are in equilibrium.
Does water rise to greater heights in coarse or fine grained sands?

A. Higher in fine grained sands, as the spaces between fine grained sands are smaller and water-height is inversely proportional to capillary tube size.

B. Higher in fine grained sands, as the total surface area is higher in fine grained sands, therefore provides a greater line of contact.

C. Higher in coarse grained sands. The spaces are larger in coarse grained sands, so the average density (sand + water) is smaller in the water-coarse grained sand fluid. Therefore there is lesser average weight force pulling down and hence a greater height.

D. Higher in coarse grained sands, as the greater frictional forces in coarse grained sands provides a larger adhesive force.

1. Only A is correct.  
2. Only B is correct.  
3. Only C is correct.  
4. Only D is correct.  
5. Both A and B are correct.  
6. Both C and D are correct.