23 January 2017: Fluids II

Directions:
1. Answer the questions below by clicking the button next to the best answer or typing your answer. Each question's answers are in grey.
2. At the end of every page click the next button to move forward to the next page. DO NOT USE THE BROWSER'S BACK BUTTON!
3. On the last page of the quiz you will be able to see which questions are answered, unanswered and have been flagged.

Question(s) 1, 2, 3 of 3:

1. Consider a tall cylindrical drinking glass half filled with water (density 1000 kg/m³). What is the gauge pressure at a point 2.6 cm below the surface?
   - A. 1.0 x 10^5 Pa
   - B. 2.5 x 10^4 Pa
   - C. 2.5 x 10^3 Pa
   - D. 2.5 x 10^2 Pa
   - E. 2.5 x 10^1 Pa

   □ Flag this question for later review

2. Consider a cylindrical object of cross sectional area A and length L lowered into a beaker filled with liquid of density ρ so that its bottom surface is at a depth d (d is positive at points in the liquid). What is the vertical force exerted by the liquid on the bottom surface of the cylinder? Let P₀ be the pressure of the air at the surface of the liquid. (Note ρ is written as rho in the answers)
   - A. (P₀ + ρ g d) upwards
   - B. (P₀ + ρ g d) downwards
   - C. (P₀ + ρ g d)A upwards
   - D. (P₀ + ρ g d)A downwards
   - E. (ρ g d A) upwards
   - F. (ρ g d A) downwards

   □ Flag this question for later review

3. Consider a cylindrical object of cross sectional area A and length L partially submerged in a beaker filled with liquid of density ρ so that its bottom surface is at a depth of d (d < L). What is the net force on the cylinder due to the air pressure on the top surface and the water pressure on the bottom surface?
   - A. (P₀ + ρ g d)A upwards
   - B. (ρ g d A) upwards
   - C. (ρ g d A) downwards
   - D. (ρ g L A) upwards
E. \( (\rho g L A) \) downwards

Tick to flag this question for later review.

You will be able to review all of your answers at the end of the quiz.

The QuizStar Team provides technical assistance and support to users M-F from 8:00 a.m.- 5:00 p.m. Central Standard Time, excluding U.S. federal holidays.