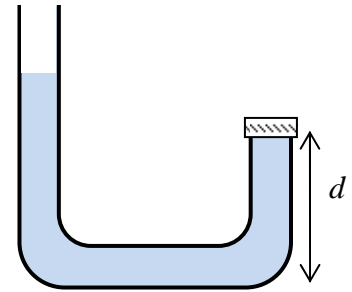


Name: _____ Section: _____

Tuesday, September 1

Quiz 1A

The tube in the figure has a cross-sectional area of 5.0 cm^2 . The short arm, of length $d = 0.80 \text{ m}$, is sealed with a cap and water is poured inside the tube through the long arm. The cap will pop off when the force on it exceeds 10 N . What is the height of water in the long arm that will put the seal on the verge of popping?

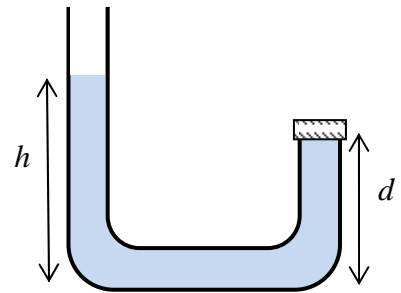


Name: _____ Section: _____

Tuesday, September 1

Quiz 1B

The tube in the figure has a cross-sectional area of 4.0 cm^2 . The short arm, of length $d = 0.50 \text{ m}$, is sealed with a cap and water is poured inside the tube through the long arm until there is a height $h = 1.2 \text{ m}$ of water in it. What is the net force on the cap?

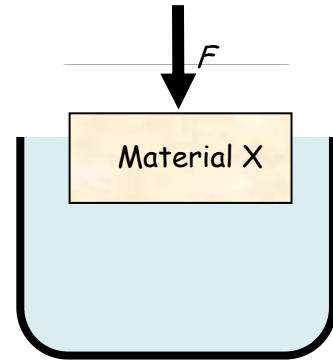


Name: _____ Section: _____

Tuesday, September 1

Quiz 1C

A large slab of material X with a mass of 0.50 kg floats in water. When a vertical force of 2.0 N is applied to the top side of the block, the system is in equilibrium when $\frac{2}{3}$ of the slab is submerged. Determine the density of material X.



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Quiz 1D

A large slab of material X with a mass of 0.50 kg floats in water. When a vertical force of 2.0 N is applied to the top side of the block, the system is in equilibrium when half of the slab is submerged. Determine the density of material X.

