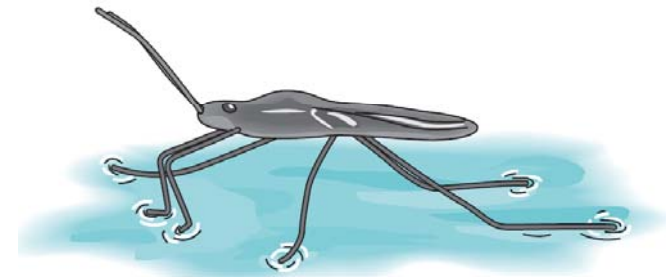


Problems

- Estimate the minimum size of air and water volume where the fluctuation of thermodynamic variables will be less than 0.5%. Assume that air is an ideal gas at atmospheric pressure and the fluctuations go as \sqrt{N}/N

$$\sqrt{N}/N$$

- Munson1.49** Find the minimum length of the interface necessary to support a water strider. Assume the bug weighs 10^{-4} N and surface tension acts vertically upward. Surface tension of water $\sigma = 7.3 \cdot 10^{-2}$ N/m. What length of the interface would be required to support a person weighing 750N.



- Munson1.29** As was discussed in the lecture, no-slip condition means that a fluid sticks to a solid surface, both fixed or moving. Determine the ratio between the share stresses acting on the upper and on the bottom plate.

