The following formulas are for calculating the rate at which a fluid will flow from a tank when the fluid level is maintained constant (h is constant). The discharge coefficient \( C_d \) depends on the configuration of the outlet. Some typical values for discharge coefficient are shown below.

### Examples

**Example One**

An open tank is continuously fed with water such that the height from the water surface to the outlet is maintained at 60”. The outlet has a 1” diameter bulkhead fitting (comparable to a short tube outlet). The outlet area is calculated by:

\[
a = \pi \frac{d^2}{4} = \pi \left(\frac{1^2}{4}\right) = 0.7854 \text{ in}^2
\]

The flow of water through the outlet is given by:

\[
q = 0.81 \left(0.7854\right) \sqrt{2 \left(386\right)} 60 = 137 \text{ in}^3/\text{sec}
\]

This flow rate is equivalent to about 36 gpm.