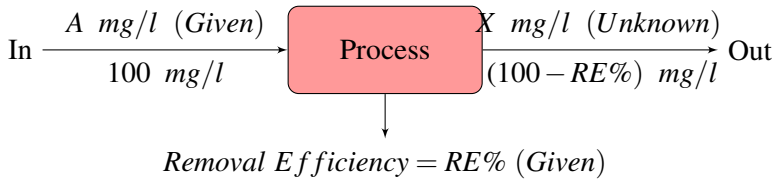
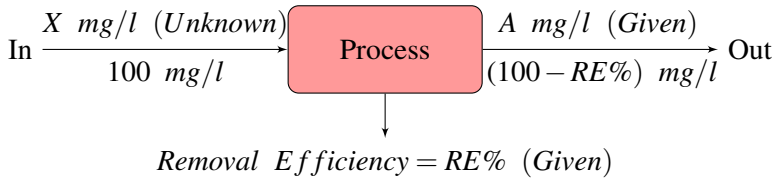


Setup the equation as: $\frac{Out}{In}: \frac{X\ mg/l}{A\ mg/l} = \frac{100-RE\%}{100}$

Calculate X using cross multiplication - if $\frac{A}{B} = \frac{C}{D} \implies A = B * \frac{C}{D}$:

$X\ mg/l = A\ mg/l * \frac{100-RE\%}{100}$

Case 2: Calculating inlet conc. (X) given the outlet conc. and removal efficiency (RE%):



Using the fact that if the inlet concentration was 100 mg/l, the outlet concentration would be 100 minus the removal efficiency.

Setup the equation as: $\frac{In}{Out}: \frac{X\ mg/l}{A\ mg/l} = \frac{100}{100-RE\%}$

Calculate X using cross multiplication - if $\frac{A}{B} = \frac{C}{D} \implies A = B * \frac{C}{D}$:

$X\ mg/l = A\ mg/l * \frac{100}{100-RE\%}$

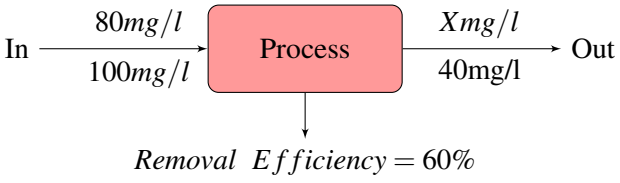
Example Problems:

1. What is the % removal efficiency if the influent concentration is 10 mg/L and the effluent concentration is 2.5 mg/L?

   $Removal\ Rate(\%) = \frac{In-Out}{In} * 100 \implies \frac{10-2.5}{10} * 100 = \boxed{75\%}$

2. Calculate the outlet concentration if the inlet concentration is 80 mg/l and the process removal efficiency is 60%

   Solution:



$\frac{Out}{In}: \frac{Actual\ \ Outlet(X)}{80} = \frac{100-60}{100}$

$\implies \frac{Actual\ \ Outlet(X)}{80} = 0.4$

$\implies Actual\ \ Outlet(X) = 0.4 * 80 = \boxed{32mg/l}$