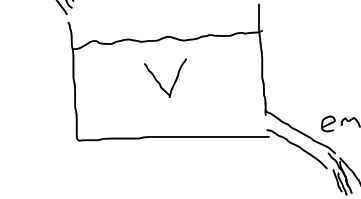


8e) filled in 6min $S_1 = \frac{V}{6} \text{ u}^3/\text{min}$



emptied in 10min

$$S_2 = \frac{V}{10} \text{ u}^3/\text{min}$$

$$\begin{aligned} S_F &= \frac{V}{6} - \frac{V}{10} \\ &= \frac{V}{15} \end{aligned}$$

$$S = \frac{V}{t}$$

$$t = \frac{V}{S}$$

$$= \frac{V}{\frac{V}{15}}$$

$$= \underline{\underline{15 \text{ min}}}$$

$$11a) \quad \frac{x-1}{x-3} = 1 + \frac{2}{x-3}$$

$$1 + \frac{2}{x-3} = \frac{x-3+2}{x-3}$$
$$= \frac{x-1}{x-3}$$

$$b) \quad \frac{x-1}{x-3} - \frac{x-3}{x-5} = \frac{x-5}{x-7} - \frac{x-7}{x-9}$$

$$1 + \frac{2}{x-3} - \left(1 + \frac{2}{x-5}\right) = 1 + \frac{2}{x-7} - \left(1 + \frac{2}{x-9}\right)$$

$$\frac{1}{x-3} - \frac{1}{x-5} = \frac{1}{x-7} - \frac{1}{x-9}$$

$$\frac{x-5 - (x-3)}{(x-3)(x-5)} =$$

$$\frac{-2}{(x-3)(x-5)} = \frac{-2}{(x-7)(x-9)}$$

$$x^2 - 8x + 15 = x^2 - 16x + 63$$

$$8x = 48$$

$$\underline{x = 6}$$