

H.W

1) Given,

$$\begin{aligned} \text{depth (h)} &= 2\text{m} \\ \text{density} &= 1000\text{kg/m}^3 \\ g &= 10\text{m/s}^2 \end{aligned}$$

$$\begin{aligned} \therefore P &= h \times \text{density} \times g \\ &= 2 \times 1000 \times 10 \\ &= 20000 \text{ Pa} \end{aligned}$$

2) Given,

$$\begin{aligned} \text{area of cross section} &= 6 \times 10^{-3} \text{ m}^2 \\ \text{density} &= 1000 \text{ kg/m}^3 \\ \text{weight} &= 60 \text{ kg} \end{aligned}$$

$$\begin{aligned} \therefore P &= 6 \times 10^{-3} \text{ m}^2 \times 1000 \times 60 \times 10 \\ &= 6 \times 10^{-3} \times 10^3 \times 600 \\ &= 3600 \times 10^0 \\ &= 3600 \text{ Pa} \end{aligned}$$

3(a) If the valve is removed, then the direction of flow of water will be towards A as the level of water is more in A than B.

(b) In this figure, point D will travel the largest distance because pressure in liquid increases with the depth.

Questions

- 1) (a) Lower than
- 2) (c) colour of fluid
- 3) C, A, B and then D.

Questions

1.

2. a) 10,000 N

3. d) 50,000 cm²

$$\frac{150000}{300} = 500$$

Home assignment

1) (2) remain unchanged, if $p < p_w$

2) (3) Statement - 1 is true, statement - 2 is false