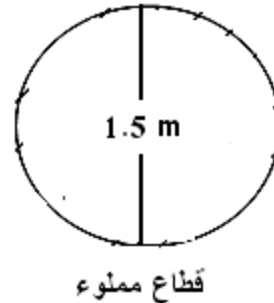
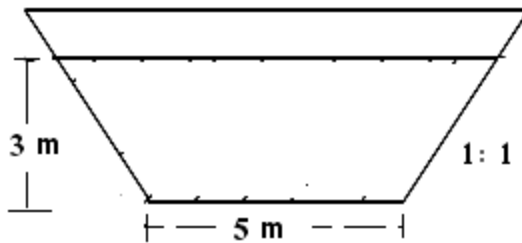


Q1

What is the Hydraulic Radius, calculate its value for the following c.s channel , and find the discharge in each channel if the velocity of the flow is 2 m/s ?

A trapezoidal C.S channel



Q2

A trapezoidal C.S channel with side slope 1:1, if the width of the bed is three times the depth of flow, and the discharge is 3 cub meter per second, calculate the width of the bed, the depth of the flow, and the Hydraulic radius if the velocity of the flow is 1.5 m/s?

Q3

Water flows uniformly in a 2.5 m wide rectangular channel at a depth of 300 mm. The channel slope is 0.0028 and  $n = 0.014$ .

Find the flow rate in  $\text{m}^3 / \text{s}$  ?

Q4

For the channel cross section in the following figure,  $a = 1\text{m}$ ,  $b = 3\text{m}$ ,  $d = 2\text{m}$ ,  $w = 8\text{m}$ , and  $n = 0.015$ . what bed slope is required so that the flow will be  $16 \text{ m}^3 / \text{s}$  when the depth of flow is 1.5 m?

