- **Solve all questions and _assume_ any missing data**

Question-1 (10 points):

A **60-cm**-wide belt moves at **10 m/s**, as shown in **Fig. (1)**. Assuming a linear velocity profile in the water, Calculate:

a. The shear stress on the belt.
b. The resistance force on the belt
c. The power requirement for driving this belt
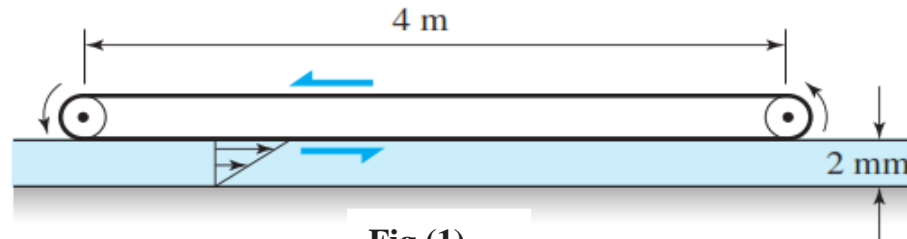

4 m

2 mm

Fig (1)

Question-2 (10 points):

A **1.2 m**-tall, **20 cm**-thickness concrete with (specific weight **24 kN/m³**) retaining wall is built as shown in **Fig. (2)**. During a heavy rain, water fills the space between the wall and the earth behind it to a depth **h**. Determine the maximum depth of water possible without the wall **tipping over**. The wall is **1 m**-wide, and simply rests on the ground **without** being anchored to it.
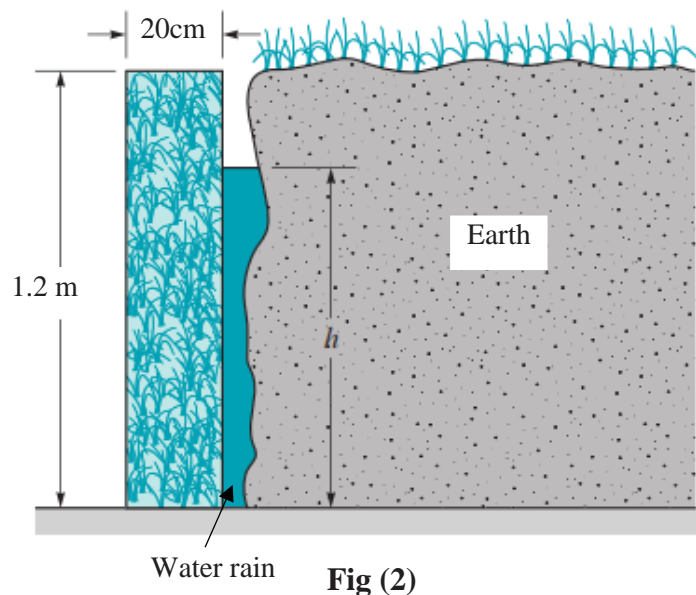

20cm

1.2 m

Earth

h

Water rain

Fig (2)