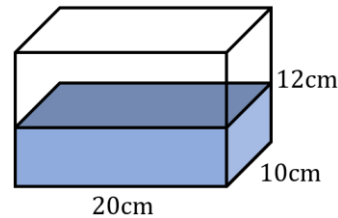
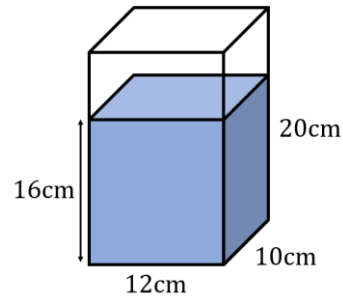


a)
A cuboidal container, as shown in the first diagram, is filled with water to a depth of 16cm, and sealed.

The container is then rotated as shown in the second diagram.

What is the depth of the water in the container in the second diagram?

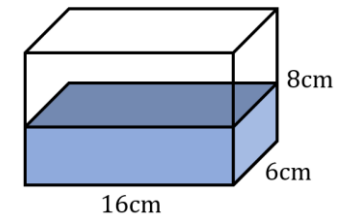
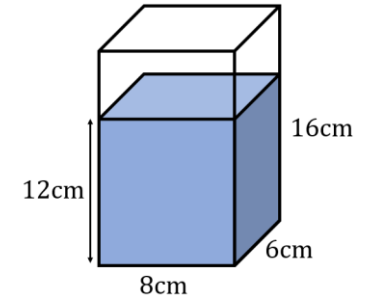


What is the volume of water in the sealed container?	$12\text{cm} \times 10\text{cm} \times 16\text{cm} = 1920\text{cm}^3$
Allow the depth of the water in the second diagram to be x . How can we express the volume of the water?	$20\text{cm} \times 10\text{cm} \times x\text{cm} = 200x\text{cm}^3$
Has the volume of water changed?	$200x\text{cm}^3 = 1920\text{cm}^3$
What is the depth of the water, x ?	$x = \frac{1920}{200} = 9.6\text{cm}$

b)
A cuboidal container, as shown in the first diagram, is filled with water to a depth of 12cm, and sealed.

The container is then rotated as shown in the second diagram.

What is the depth of the water in the container in the second diagram?



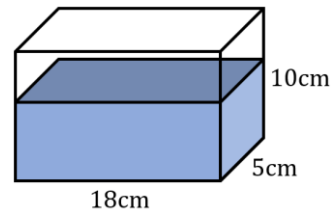
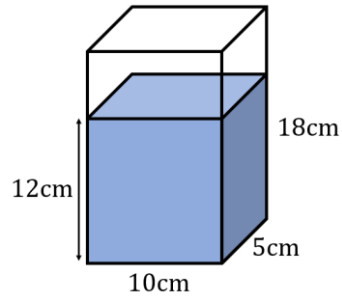
What is the volume of water in the sealed container?	$8\text{cm} \times 6\text{cm} \times 12\text{cm} = 576\text{cm}^3$
Allow the depth of the water in the second diagram to be x . How can we express the volume of the water?	$16\text{cm} \times 6\text{cm} \times x\text{cm} = 96x\text{cm}^3$
Has the volume of water changed?	
What is the depth of the water, x ?	

c)

A cuboidal container, as shown in the first diagram, is filled with water to a depth of 12cm, and sealed.

The container is then rotated as shown in the second diagram.

What is the depth of the water in the container in the second diagram?

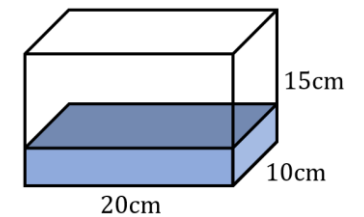
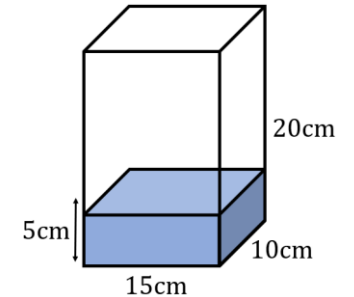


d)

A cuboidal container, as shown in the first diagram, is filled with water to a depth of 5cm, and sealed.

The container is then rotated as shown in the second diagram.

What is the depth of the water in the container in the second diagram?



What is the volume of water in the sealed container?	$10\text{cm} \times 5\text{cm} \times 12\text{cm} = 600\text{cm}^3$
Allow the depth of the water in the second diagram to be x . How can we express the volume of the water?	
Has the volume of water changed?	
What is the depth of the water, x ?	