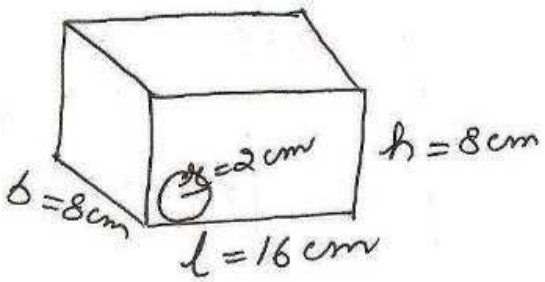
(1)



volume of liquid
= vol of cuboid − vol. of 16 spheres

$= lbh - 16 \times \frac{4}{3}\pi r^3$

$= 16 \times 8 \times 8 - \frac{64}{3} \times 3.14 \times 2^3$

$= 64 \times 8 \left[2 - \frac{3.14}{3}\right]$

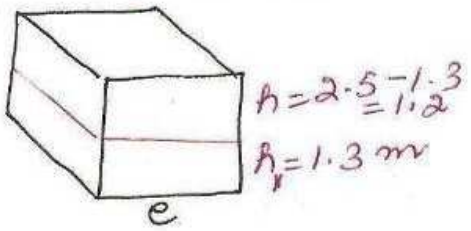
$= 512 \left[\frac{6 - 3.14}{3}\right]$

$= \frac{512}{3} \times 2.86$

$= \frac{1635.92}{3}$

$= 545.31\ cm^3 = 545\ cm^3$

(2)



volume $= 15.625\ m^3$

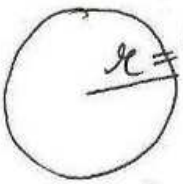
$e^3 = 15.625$

$e = \sqrt[3]{15.625}$

$= 2.5\ m$

volume of water used
$= lbh$
$= 2.5 \times 2.5 \times 1.2$
$= 7.5\ m^3$

(3)



volume of water displaced $= \frac{4}{3}\pi r^3$

$= \frac{4}{3} \times \frac{22}{7} \times 2.1 \times 2.1 \times 2.1$

$= 38.808\ cm^3$