Area and Volume (I) Part 2

Solution

3. (a) Volume of water $= 65\,\% \times 35 \times 45 \times 20$
$= 65\,\% \times 31\,500$
$= 20\,475\ \text{cm}^3$

height of the water in the tank $= 20475 \div 35 \div 45$
$= 13\ \text{cm}$

(b) $20475 \div 450 = 45.5\ \text{cm}^3$

4. (a) volume of plastic
$= 56 \times 26 \times 25 - (56 - 3 - 3) \times (26 - 3 - 3) \times (25 - 3)$
$= 56 \times 26 \times 25 - 50 \times 20 \times 22$
$= 36400 - 22000$
$= 14400\ \text{cm}^3$

(b) available space
$= (56 - 3 - 3) \times (26 - 3 - 3) \times (25 - 3 - 20)$
$= 50 \times 20 \times 2$
$= 2000\ \text{cm}^3$

$2000 \div 1.6 = 1250$

For the water in the container to start overflowing,

we would add 1 251 marbles.