

- 10** The density of water is  $1.0 \text{ g cm}^{-3}$  and the density of glycerine is  $1.3 \text{ g cm}^{-3}$ .

Water is added to a measuring cylinder containing  $40 \text{ cm}^3$  of glycerine so that the density of the mixture is  $1.1 \text{ g cm}^{-3}$ . Assume that the mixing process does not change the total volume of the liquid.

What is the volume of water added?

- A**  $40 \text{ cm}^3$                       **B**  $44 \text{ cm}^3$                       **C**  $52 \text{ cm}^3$                       **D**  $80 \text{ cm}^3$

- 11** An astronaut throws a stone horizontally near to the surface of the Moon, where there is no