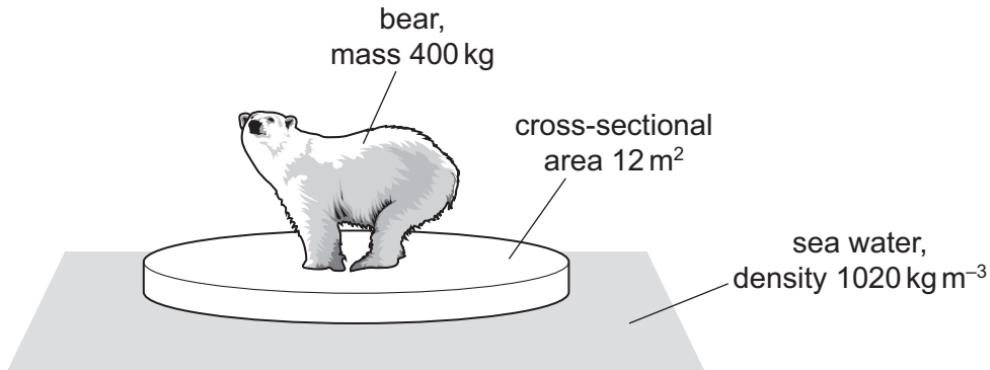


**15** A cylindrical block of ice of cross-sectional area  $12\text{ m}^2$  is floating, partially submerged, in the sea.

The density of the sea water is  $1020\text{ kg m}^{-3}$ . A polar bear of mass  $400\text{ kg}$  steps onto the block of ice.



The block of ice sinks a vertical distance  $d$ .

What is the value of  $d$ ?

**A**  $3.3\text{ mm}$

**B**  $3.3\text{ cm}$

**C**  $0.32\text{ m}$

**D**  $3.1\text{ m}$