A thermometer graduated according to a linear scale reads a value x_0 when in contact with boiling water, and $x_0/3$ when in contact with ice. What is the temperature of an object in °C, if this thermometer in the contact with the object reads $x_0/2$?

A 60

B 35

C 25

D 40

For given thermometer,

Boiling point = x_0 , Ice point = $\dfrac{x_0}{3}$
     (B·P)   (I·P)

A.T.Q - $\dfrac{(T)_A - (I·P)_A}{(B·P)_A - (I·P)_A}$ = $\dfrac{(T)_C - (I·P)_C}{(B·P)_C - (I·P)_C}$

$\Rightarrow \dfrac{\dfrac{x_0}{2} - \dfrac{x_0}{3}}{x_0 - \dfrac{x_0}{3}} = \dfrac{T_C - 0}{100 - 0}$

$\Rightarrow \boxed{T_C = 25°C}$