

15 A chef heats some water in a pan on a hotplate.

The temperature of the water rises by $10\text{ }^{\circ}\text{C}$ in time t .

She then puts the same volume of oil in an identical pan on the same hotplate.

The specific heat capacity of water is 2.5 times that of oil and water is 1.1 times denser than oil.

What is the time for the temperature of the oil to rise by $10\text{ }^{\circ}\text{C}$?

A $0.36t$

B $0.44t$

C $2.3t$

D $2.8t$