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$$T_1 \text{ of thermometer} = 10^\circ\text{C}$$

$$T_2 \text{ of thermometer} = 20^\circ\text{C}$$

$$\text{Time} = 5 \text{ mins} = 300 \text{ sec}$$

$$\Delta T = 20 - 10 = 10^\circ\text{C}$$

$$\text{Final } T = 24.9^\circ\text{C}$$

$$\Delta T = 24.9 - 10 = 14.9$$

$$10^\circ\text{C} = 300 \text{ sec}$$

$$14.9^\circ\text{C} = x$$

$$\frac{10^\circ\text{C}}{14.9^\circ\text{C}} = \frac{300 \text{ sec}}{x}$$

$$10x = 14.9 (300) \text{ sec}$$

$$x = \frac{14.9 (300) \text{ sec}}{10}$$

$$x = 447 \text{ sec}$$

$$\therefore x = 7 \text{ mins } 27 \text{ sec}$$