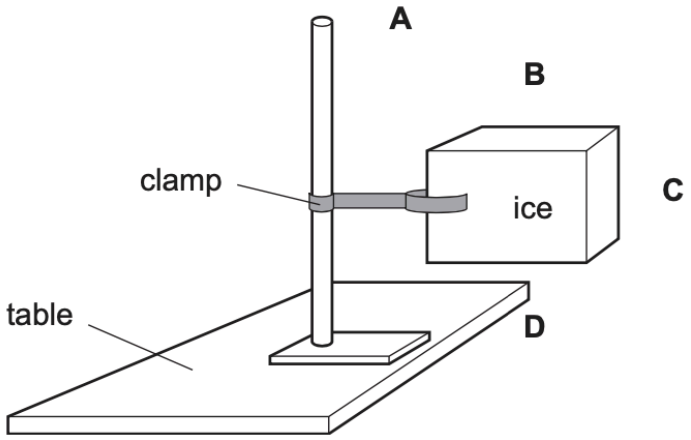
1.

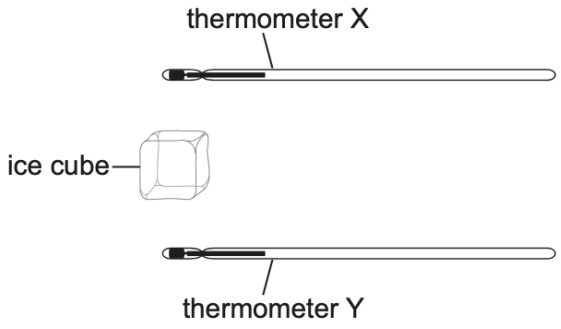
The diagram shows a block of ice placed in a warm room.

At which point is the temperature the **lowest**?



2.

Thermometer X is held above an ice cube and thermometer Y is held the same distance below the ice cube. After several minutes, the reading on one thermometer changes. The ice cube does not melt.



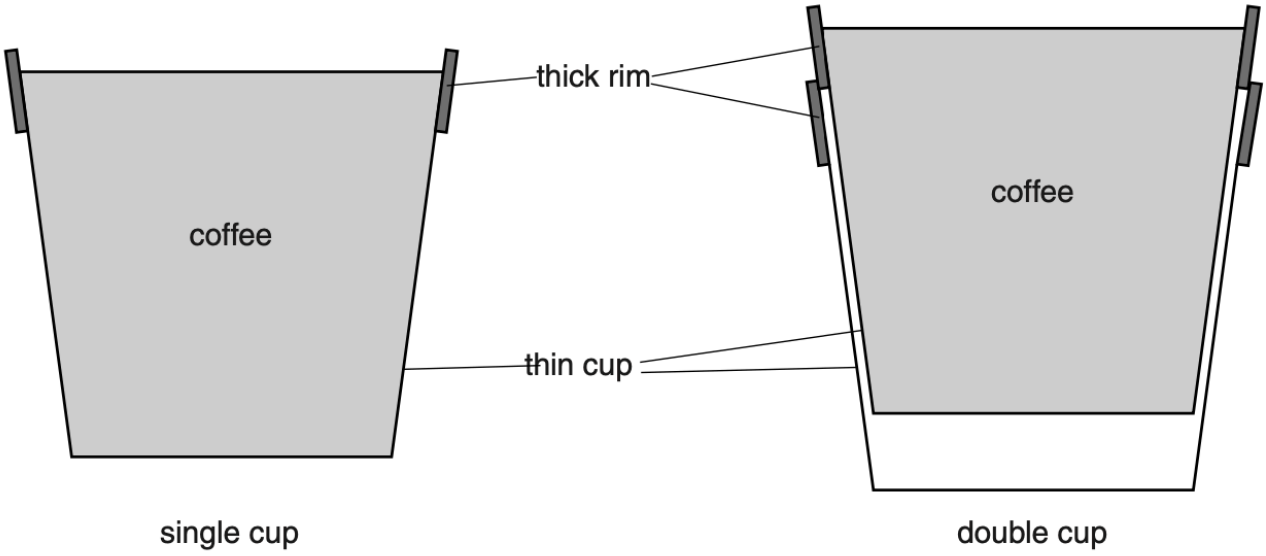
Which thermometer reading changes and why?

	thermometer	reason
A	X	cool air rises from the ice cube
B	X	warm air rises from the ice cube
C	Y	cool air falls from the ice cube
D	Y	warm air falls from the ice cube

3.

Fig. 5.1 shows a thin plastic cup containing hot coffee, which an IGCSE Physics student gets from a machine.

Fig. 5.2 shows how another student, who finds an empty second cup, has placed his identical cup of coffee inside this second cup.



single cup

Fig. 5.1

double cup

Fig. 5.2

(a) Suggest and explain a difference that the students will feel when holding the cups.

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..... [2]

(b) The students discuss this experience with their teacher, who makes hot drinks the subject of an experiment.

The same volume of hot water at the same temperature is placed in the single cup and in the double cup.

The temperature of the water in each cup is recorded for 10 minutes.

Fig. 5.3 shows the cooling curve for the water in the single cup.

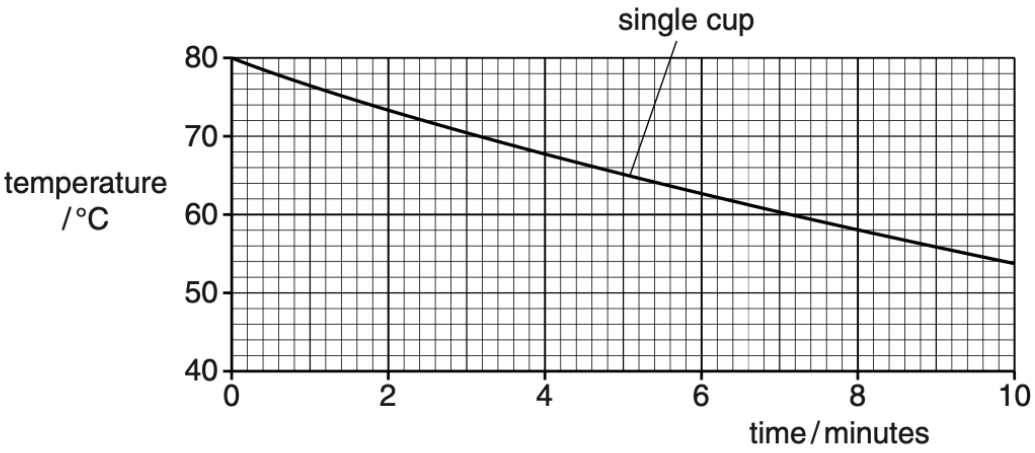

Fig. 5.3

On Fig. 5.3, sketch and label a possible cooling curve for the water in the double cup. [2]

(c) Explain why a cup of coffee cools more slowly when a lid is placed over the cup.

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..... [2]