

1. What is it called when two things in thermal contact have the same temperature? (2 points)



2. [4 points total]

You bring a cold piece of cake out of the refrigerator.

The cake has a temperature of 42°F and the room has a temperature of 67°F.

2a.

How will heat energy flow?

|    |  |
|----|--|
| A. |  |
| B. |  |
| C. | Heat energy does not flow.   |

2b. What will happen to the temperature of the cake?

A. It will increase

B. It will decrease

C. It will stay the same

2c. When will heat energy stop flowing?

3. [4 points total]

You bring freshly baked cookies out of the oven.

The cookies have a temperature of 140°F and the room has a temperature of 67°F.

|    |  |
|----|--|
| A. | <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">COOKIES</div> <div style="text-align: center;">             HEAT<br/> <math>\longrightarrow</math> </div> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">ROOM</div> </div> |
| B. | <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">COOKIES</div> <div style="text-align: center;">             HEAT<br/> <math>\longleftarrow</math> </div> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">ROOM</div> </div>  |
| C. | Heat energy does not flow.   |

What happens to the temperature of the cookies?

- A. It will increase
- B. It will decrease
- C. It will stay the same

When will heat energy stop flowing?

4. [2 points total] A bar of chocolate has been the room for a long time. The chocolate has a temperature of 67°F and the room has a temperature 67°F.

|    |  |
|----|--|
| A. | <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">Chocolate</div> <div style="text-align: center;">             HEAT<br/> <math>\longrightarrow</math> </div> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">ROOM</div> </div> |
| B. | <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">Chocolate</div> <div style="text-align: center;">             HEAT<br/> <math>\longleftarrow</math> </div> <div style="border: 1px solid black; padding: 10px; font-size: 24px;">ROOM</div> </div>  |
| C. | Heat energy does not flow.   |

5.

A rock with a temperature of 30 degrees Celsius is thrown into a pool of water with a temperature of 15 degrees Celsius.

How does heat energy flow?

- A. from the rock to the water
- B. from the water to the rock
- C. heat energy does not flow

What happens to the temperature of the rock?

- A. it increases
- B. it decreases
- C. it does not change

When does heat energy stop flowing?

6.

A rock with a temperature of 4 degrees Celsius is thrown into a pool of water with a temperature of 15 degrees Celsius.

- A. from the rock to the water
- B. from the water to the rock
- C. heat energy does not flow

What happens to the temperature of the rock?

- A. it increases
- B. it decreases
- C. it does not change

When does heat energy stop flowing?