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Rank the temperatures of the ideal gases below that contain a different number of molecules (N) at various pressures (P) and volumes (V).

The diagram shows eight boxes, labeled A through H, each representing a different state of a gas. The boxes are arranged in two rows. The top row contains boxes A, B, C, and D. The bottom row contains boxes E, F, G, and H. Each box contains the following information:

- A:** $P=2 \text{ atm}$, $N=10,000$, $V= 2 \text{ L}$
- B:** $P=2 \text{ atm}$, $N=5,000$, $V= 2 \text{ L}$
- C:** $P=2 \text{ atm}$, $N=20,000$, $V= 2 \text{ L}$
- D:** $P=3 \text{ atm}$, $N=10,000$, $V= 2 \text{ L}$
- E:** $P=1 \text{ atm}$, $N=10,000$, $V= 2 \text{ L}$
- F:** $P=1 \text{ atm}$, $N=10,000$, $V= 1\text{L}$
- G:** $P=2 \text{ atm}$, $N=10,000$, $V= 1 \text{ L}$
- H:** $P=3 \text{ atm}$, $N=60,000$, $V= 4 \text{ L}$

Greatest 1____ 2____ 3____ 4____ 5____ 6____ 7____ 8____ Leas
t

Or, all these gases have the same temperature. _____

Or, it is not possible to rank the temperatures for these gases. _____

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically guessed				Sure				Very Sure	
1	2	3	4	5	6	7	8	9	10

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