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Rank the pressures of the ideal gases below that contain various amounts of internal energy ( $U$ ) and various numbers of molecules ( $N$ ) in various volumes ( $V$ ).

The diagram shows eight boxes, labeled A through H, arranged in two rows. Each box contains three lines of text representing the internal energy ( $U$ ), the number of particles ( $N$ ), and the volume ( $V$ ) of a system.

- Box A:**  $U=20 \text{ J}$ ,  $N=10,000$ ,  $V=2 \text{ L}$
- Box B:**  $U=20 \text{ J}$ ,  $N=5,000$ ,  $V=2 \text{ L}$
- Box C:**  $U=20 \text{ J}$ ,  $N=20,000$ ,  $V=2 \text{ L}$
- Box D:**  $U=30 \text{ J}$ ,  $N=10,000$ ,  $V=2 \text{ L}$
- Box E:**  $U=15 \text{ J}$ ,  $N=10,000$ ,  $V=2 \text{ L}$
- Box F:**  $U=15 \text{ J}$ ,  $N=10,000$ ,  $V=1 \text{ L}$
- Box G:**  $U=30 \text{ J}$ ,  $N=10,000$ ,  $V=1 \text{ L}$
- Box H:**  $U=40 \text{ J}$ ,  $N=60,000$ ,  $V=4 \text{ L}$

Greatest 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_ 7\_\_\_\_ 8\_\_\_\_ Least  
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Or, all these gases have the same pressure. \_\_\_\_\_

Or, it is not possible to rank the pressures 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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