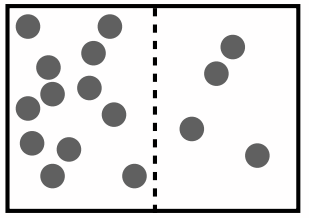
Physics 3410 Quiz 1

Please write the letter of the correct answer in the box provided. Name: _____

☐ 1. The figure shows a set of random walkers like in class. When this system reaches diffusive equilibrium, the number of particles on each side will remain constant.



A) true B) false

☐ 2. A metal wire connected to a battery becomes warmer due to

A) heat B) work

☐ 3. Which of the following types of heat flow *cannot* occur in solids?

A) conduction B) convection C) radiation D) A & C

☐ 4. Our sign convention is that Q is positive when heat flows ___ the system.

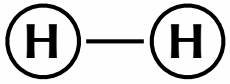
A) into B) out of C) around

$\Delta U = Q + W$

☐ 5. If ΔT = 1C°, then ΔT=

A) –273K B) –272K C) 1K D) 300K (Careful!)

☐ 6. How many degrees of freedom does a hydrogen molecule H_2 have, if none are "frozen out"?



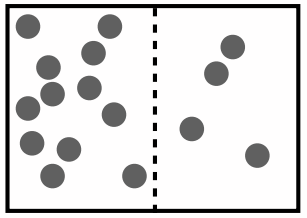
A) 2 B) 3 C) 5 D) 6 E) 7 F) 8

Physics 3410 Quiz 1

Please write the letter of the correct answer in the box provided. Name: _____

B

1. The figure shows a set of random walkers like in class. When this system reaches diffusive equilibrium, the number of particles on each side will remain constant.



A) true B) false

B

2. A metal wire connected to a battery becomes warmer due to

A) heat B) work

B

3. Which of the following types of heat flow *cannot* occur in solids?

A) conduction B) convection C) radiation D) A & C

A

4. Our sign convention is that Q is positive when heat flows ___ the system.

A) into B) out of C) around

$\Delta U = Q + W$

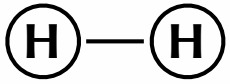
C

5. If ΔT = 1C°, then ΔT=

A) –273K B) –272K C) 1K D) 300K (Careful!)

E

6. How many degrees of freedom does a hydrogen molecule H_2 have, if none are "frozen out"?



A) 2 B) 3 C) 5 D) 6 E) 7 F) 8