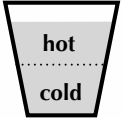



## Physics 3410 Quiz 4

Please write the letter of the correct answer in the box provided.

Name: \_\_\_\_\_

☐ 1. What letter do we use to represent entropy?  
A) E      B) H      C) N      D) S      E)  $\Omega$

☐ 2. Two cups of water have an average temperature of  $10^\circ\text{C}$ . Which has the larger entropy?  
A)       B)       C) Both have the same entropy.

☐ 3.  $\Gamma(2)=1$  and  $\Gamma(3)=2$ . What is  $\Gamma(4)$ ?  
A) 2      B) 3      C) 6      D) 24

☐ 4. The surface area of a 5-dimensional sphere with radius  $R$  is proportional to  
A)  $R$       B)  $R^2$       C)  $R^4$       D)  $R^5$       E)  $R^6$

*Consider the multiplicity  $\Omega$  of an ideal gas of six particles in a volume  $V$ .*

☐ 5.  $\Omega$  is proportional to  
A)  $V$       B)  $V^2$       C)  $V^6$       D)  $V^{12}$       E)  $V^{18}$

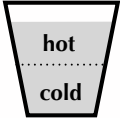

☐ 6.  $\Omega$  is proportional to the surface area of a ...-dimensional sphere with radius  $\sqrt{2mU}$ .  
A) 3      B) 6      C) 12      D) 18

## Physics 3410 Quiz 4

Please write the letter of the correct answer in the box provided.

Name: \_\_\_\_\_

**D** 1. What letter do we use to represent entropy?  
A) E      B) H      C) N      D) S      E)  $\Omega$

**B** 2. Two cups of water have an average temperature of  $10^\circ\text{C}$ . Which has the larger entropy?  
A)       B)       C) Both have the same entropy.

**C** 3.  $\Gamma(2)=1$  and  $\Gamma(3)=2$ . What is  $\Gamma(4)$ ?  
A) 2      B) 3      C) 6      D) 24

**C** 4. The surface area of a 5-dimensional sphere with radius  $R$  is proportional to  
A)  $R$       B)  $R^2$       C)  $R^4$       D)  $R^5$       E)  $R^6$

*Consider the multiplicity  $\Omega$  of an ideal gas of six particles in a volume  $V$ .*

**C** 5.  $\Omega$  is proportional to  
A)  $V$       B)  $V^2$       C)  $V^6$       D)  $V^{12}$       E)  $V^{18}$

**D** 6.  $\Omega$  is proportional to the surface area of a ...-dimensional sphere with radius  $\sqrt{2mU}$ .  
A) 3      B) 6      C) 12      D) 18