

21. Gas molecules of different masses in the same container have the same average translational kinetic energy which is directly proportional to their

- A. volume B. pressure
C. absolute temperature D. time

Answer: Option c

22. Which one of correct relation ?

- A. $C_p + C_v = ?$ B. $C_p = 1 + R/C_v$
C. $? = C_p/C_v$ D. $C_p = 1 - R/C_v$

Answer: Option c

23. The reading on the Fahrenheit scale will be double the reading on the centigrade scale when the temperature on the centigrade scale is

- A. 460°C B. 280°C
C. 360°C D. 160°C

Answer: Option c

24. The area enclosed by the curve ABCDA for a Carnot heat engine represents the work done by Carnot engine

- A. at any instant B. averagely
C. during its operation D. during one cycle

Answer: Option D

25. For a gas obeying Boyle's law if the pressure is doubled the volume becomes

- A. double B. one half
C. four times D. one fourth

Answer: Option B

26. Triple point of water is

A. 273°C at 6.11 Kpa

B. 273K at 61.6 Kpa

C. 273.16°C at 0.611 Kpa

D. 273.16K at 750 Kpa

Answer: Option c

27. Which of the following properties of molecules of a gas is same for all gases at particular temperature?

A. momentum

B. mass

C. velocity

D. kinetic energy

Answer: Option D

28. Boltzman constant K in terms of universal gas constant R and Avagadros number N_A is give as

A. $K = RN_A$

B. $K = R/N_A$

C. $K = N_A/R$

D. $K = nRN_A$

Answer: Option B

29. Average translational kinetic energy per molecule of an ideal gas is given by

A. $3N_A T/2R$

B. $2N_A T/3$

C. $3RT/2N_A$

D. $3N_A/2RT$

Answer: Option c