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NPTEL

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Courses » Introduction to Chemical Thermodynamics and Kinetics

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Course outline

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Week 1

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Assignment 1 Week 1
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Introduction to
Chemical
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Solution

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Assignment 1

The due date for submitting this assignment has passed.

As per our records you have not submitted this **Due on 2019-02-13, 23:59 IST.**
assignment.1) **1 point**

-
-
-
-
-
-
-

No, the answer is incorrect.**Score: 0****Accepted Answers:**2) The Boyle temperature is the temperature at which the (real) gas behaves **1 point**
ideally

-
- at any pressure
-
-
- when the pressure is very low
-
-
- when the pressure is very high
-
-
- when the pressure is intermediate (neither very low nor very high)

No, the answer is incorrect.**Score: 0****Accepted Answers:**
*when the pressure is very low*3) For a gas obeying van der Waals equation of state, $T_c = 304.2$ K and $P_c = 72.8$ atm, the constants a (in $\text{atm}\cdot\text{lit}^2/\text{mol}^2$) and b (in lit/mol) are: **1 point**

-
- 3.603, 0.0428
-
-
- 3.603, 0.428
-
-
- 0.3603, 0.0428
-
-
- 0.3603, 0.428

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Week 8
Week 9
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ce De

 5.00 Å 2.20 Å 2.96 Å 3.54 Å

No, the answer is incorrect.

Score: 0

Accepted Answers:

2.96 Å

5)

No, the answer is incorrect.

Score: 0

Accepted Answers:

6)

No, the answer is incorrect.

Score: 0

Accepted Answers:

7)

No, the answer is incorrect.

Score: 0

Accepted Answers:

8) Assuming CO₂ obeys van der Waals equation of state, the pressure (in atm) of 10 moles of CO₂ (a = 3.59 atm.lit²/mol², b = 0.0427 lit/mol) occupying a volume of 50 litre at 300 K is: **1 point**

 0.0482 0.482 4.82 48.2

No, the answer is incorrect.

Score: 0

Accepted Answers:

4.82

9) The critical temperature and pressure of N₂ are: 125.97 K, 33.49 atm and those for H₂ are: 33.2 K, 12.8 atm. The ratio of diameters of N₂ and H₂ molecules is: **1 point**

 1.33

1 point

1 point

1 point

1.23 1.13 1.03

No, the answer is incorrect.

Score: 0

Accepted Answers:

1.13

10A sample of hydrogen gas was found to have a pressure of 250 kPa when the temperature was 23°C. What can its pressure be expected to be when the temperature is 11°C? **1 point**

 100 kPa 110 kPa 240 kPa 130 kPa

No, the answer is incorrect.

Score: 0

Accepted Answers:

240 kPa

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