

Gas Law Worksheets Answer Key

Ws #1

1. 106 mL
2. 9.52 atm
3. 1.00×10^2 torr
4. 8.83 L
5. 34.5 mL
6. 9.90×10^2 torr
7. 333mL

Ws #2

1. $V_2 = 3.47$ L
2. $P_2 = 1970$ torr
3. $P_2 = .910$ atm
4. $V_2 = 180$ L
5. $T_2 = 330$ K or 57°C
6. $V_2 = 8.36$ L
7. $P_2 = 4.36$ atm
8. $V_2 = 4.9$ L
9. $V_2 = 6250$ L
10. $V_2 = 2.600$ L

Ws #3

1. $V_2 = 104$ mL
2. $P_2 = 394$ KPa
3. $V_2 = 3.72$ L
4. $P_2 = 1.0 \times 10^2$ torr
5. $V_2 = 8.83$ L
6. $V_2 = 34.5$ mL
7. 700 mmHg (1 sf)
8. $V_2 = .566$ L
9. $V_2 = 87.2$ L
10. $V_2 = 26.3$ mL

Ws#4

1. 1.22 atm
2. 6.17 L
3. 101 g Cl_2
4. 619 KPa
5. .0157 mol O_2
6. 81.5 g/mol
7. 99.3 g/mol
8. 13.9 g CO_2
9. 33.7 atm
10. 204 L

Ws#5

1. 21.2 L H_2
2. .272 g Mg
3. $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$
a) 18.8 L O_2 b) 5.3 mol H_2O c) 13.9 g H_2O
4. 7.98 g LiOH

Ws#6

1. $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$ b) 2.00 mol H_2O c) .500 mol H_2O
2. a) 2-1-2-2 b) 2.5 L H_2
3. a) 1-2-1-1 b) 11 L C_2H_2
4. $2\text{Na}_2\text{O}_2 + 2\text{H}_2\text{O} \rightarrow 4\text{NaOH} + \text{O}_2$ b) 6.40 g Na_2O_2
5. a) 1-1-2-1 b) 186 L H_2
6. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{H}_2 + \text{ZnSO}_4$ b) 1.37g Zn

Ws#7

1. NaN_3 , KNO_3 , SiO_2
2. N_2
3. 2-2-3, 10-2-1-5-1
4. The first reaction produces more N_2 . You can tell by the coefficient.
5. Na metal is very reactive, explosive
6. 3.05 mol N_2 , 2.03 mol Na
7. .203 mol N_2
8. 3.255 mol N_2
9. 72.87 L N_2
10. 79.03 L
11. 1.0×10^2 L
12. So excess gas can escape.
13. You would get way too much N_2 produce and it would hurt the driver.
14. Yes! ☺

Ws#8

1. a) 2.00×10^2 mL, b) 630 mL, c) 2.5×10^2 mL, d) 1.00×10^3
2. a) 1.17 atm, b) .916 atm, c) 1.1 atm d) 2.00 atm
3. a) 29.2 mL b) 22.9 mL, c) 27 mL, d) 50 mL
4. 2.12 atm
5. 3.206×10^{23} molecules
6. 2.12 atm
7. .0264 mol O_2
8. 63.7°C
9. 69.3 g/mol
10. 85.2 mL
11. 1.7 atm
12. 2.01 L