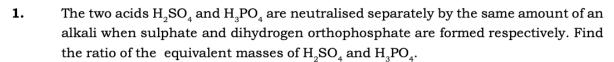
## Mole Concept DPP-5



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- 2. Equivalent weight of sulphur in SCl2 is 16, what is the equivalent weight of S in S2Cl2? (S = 32, C1 = 35.5)
- 3. The equivalent weight of chlorine is 35.5 and the equivalent weight of copper chloride is 99.5. Find the formula of copper chloride if the atomic weight of Cu is 63.5.
- 4. 14.7 g sulphuric acid was needed to dissolve 16.8 g of a metal. Calculate the equivalent weight of the metal and the volume of hydrogen liberated at NTP.
- What volume of a 0.232 N solution contains 5.
  - (a) 3.17 meg of solute (b) 6.5 eg of solute?
- 6. How many equivalents of solute are contained in
  - (a) 1 L of 2 N solution, (b) 1 L of 0.5N solution,
  - (c) 0.5 L of 0.2 N solution?
- 7. (a) What volume of  $5.00 \text{ N H}_2\text{SO}_4$  is required to neutralize a solution of 2.50 g NaOH? (b) How many g of pure H2SO4 are required?
- 8. Compute the volume of concentrated  $H_2SO_4$  (density 1.835 g/mL, 93.2%  $H_2SO_4$  by weight) required to make up 500 mL of 3.00 N acid for complete neutralization.
- Compute the volume of conc. HCl (density 1.19 g/cm<sup>3</sup>, 38% HCl by weight) required to 9. make up 18 L of N/50 acid.
- 10. A 50.0 mL sample of NaOH solution requires 27.8 mL of 0.100 N acid in titration. What is this normality? How many mg NaOH are in each mL?
- What is the equivalent weight of an acid 1.243 g of which required 31.72 cm<sup>3</sup> of 11. 0.1923 N standard base for neutralization?
- 12. The largest number of molecules is in
  - (a) 36 g of water
- (b) 28 g of CO<sub>2</sub>
- (c)  $46 \text{ g of CH}_3\text{OH}$  (d)  $58 \text{ g of N}_2\text{O}_5$
- 13. If  $1\frac{1}{2}$  moles of oxygen combine with Al to form  $Al_2O_3$ , the weight of Al used in the reaction is (A1 = 27)
  - (a) 27 g
- (b) 54 g
- (c) 40.5 g
- (d) 81 g
- **14.** The equation 2Al s  $\frac{3}{2}O_2$  Al<sub>2</sub>O<sub>3</sub> s shows that
  - (a) 2 g of aluminium react with 3/2g of oxygen to produce 1 g of aluminium oxide
  - (b) 2 g of aluminium react with 3/2 litres of oxygen to produce 1 g of aluminium oxide
  - (c) 2 moles of aluminium react with 3/2 moles of oxygen to produce one mole of aluminium oxide
  - (d) 2 moles of aluminium react with 3/2 moles of oxygen to produce 7/2 moles of aluminium oxide.

15.	The number of wat temperature is	er molecules preser	nt in a drop of water	(volume = 0.0018 ml) at r	oom
	(a) $6.023 \times 10^{19}$	(b) 1.084 × 10 <sup>18</sup>	(c) 4.84 × 10	(d) $6.023 \times 10^{23}$	
16.	If 0.5 mol of BaCl <sub>2</sub> Ba <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> that can		mol of Na <sub>3</sub> PO <sub>4</sub> , the r	maximum number of mo	le of
	(a) 0.7	(b) 0.5	(c) 0.30	(d) 0.10	
<b>17</b> .	Which has the hig	hest mass?			
	(a) 50 g of iron		(b) 5 moles of $N_2$		
	(c) 0.1 g atom of Ag		(d) 10 <sup>23</sup> atoms of carbon		
18.	The total number of electrons present in 18 ml of water (density of water is 1 g ml <sup>-1</sup> )				
	(a) $6.02 \times 10^{23}$	(b) 6.02 × 10 <sup>22</sup>	(c) 6.02 × 10	(d) $6.02 \times 10^{25}$	
19.	The number of water molecules in 1 litre of water is				
	(a) 18	(b) 18 × 1000	(c) N <sub>A</sub>	(d) 55.55 N <sub>A</sub>	
		ANS	<u>SWERS</u>		
	<b>1.</b> 1 : 2	<b>2.</b> 32	<b>3.</b> CuC <i>l</i>	<b>4.</b> 56, 3.36 Litres	
	<b>5.</b> (a) 13.7 mL, (b) 28.0L		<b>6.</b> (a) 2, (b) 0.5, (c) 0.1		
	7. (a) 12.5mL (b)	3.07g	<b>8.</b> 43.0 mL	<b>9.</b> 29 cm <sup>3</sup>	
	<b>10.</b> 0.0556N, 2.22 mg/mL		<b>11.</b> 203.8 g/eq	<b>12.</b> (a)	

**15.** (a)

**16.** (d)

**17.** (b) **18.** (c) **19.** (d)

**14.** (c)

**13.** (b)