



Quantitative Chemistry Multiple Choice Questions Foundation Answer Sheet

Set 1

1. B
2. B
3. C
4. A
5. B
6. A
7. D
8. A
9. D
10. C

Set 2

1. C
2. B
3. D
4. C
5. D
6. B
7. B
8. A
9. B
10. B

Set 3

1. A
2. B
3. B
4. C
5. B
6. D
7. A
8. C
9. C
10. D

Workings for Calculations

Set 1

7. $M_r = 23 + 16 + 1 = 40$

8. concentration = $\frac{1.5}{2} = 0.75\text{g/dm}^3$

9. mass = $4 \times 2 = 8\text{g}$

10. mean = $\frac{5.08 + 5.20 + 5.08 + 5.23 + 5.16}{5} = 5.15\text{g}$

Set 2

6. $M_r = 40 + (35.5 \times 2) = 111$

7. percentage by mass = $\frac{24}{95} \times 100 = 25\%$

8. concentration = $\frac{2.4}{5} = 0.48\text{g/dm}^3$

9. mass = $1.5 \times 0.5 = 0.75\text{g}$

10. uncertainty = $\frac{65 - 57}{2} = 4\text{cm}^3$

**Set 3**

4. $M_r = (23 \times 2) + 12 + (16 \times 3) = \mathbf{106}$

5. concentration = $\frac{45}{20} = \mathbf{2.25g/dm^3}$

6. mass = $4.8 \times 2.5 = \mathbf{12g}$

8. percentage yield = $\frac{0.96}{3.00} \times 100 = \mathbf{32\%}$

10. M_r of desired product from equation = 120

total M_r of reactants from equation = $24 + 98 = 122$

atom economy = $\frac{120}{122} \times 100 = \mathbf{98\%}$