

SAMPLE QUESTIONS

Question 1

A 10.0 g sample of bismuth tribromide, BiBr_3 , contains:

- a) 0.322 mol BiBr_3
- b) 5.360×10^{22} total number of ions
- c) 1.34×10^{22} bromide ions
- d) 3.14×10^{22} formula units BiBr_3
- e) 4.020×10^{22} total number of ions

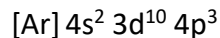
Question 2

When the reaction, $\text{Al}_2(\text{SO}_4)_3(\text{aq}) + \text{KOH}(\text{aq}) \rightarrow \text{Al}(\text{OH})_3(\text{aq}) + \text{K}_2\text{SO}_4(\text{aq})$, is balanced with the smallest integer coefficients, the sum of the coefficients are:

- a) 9
- b) 24
- c) 15
- d) 12
- e) 7

Question 3

Select the ion that has the following electronic configuration:



- a) S^+
- b) Br^-
- c) Ge^+
- d) Sn^-
- e) Se^+

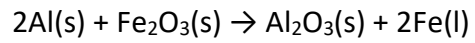
Question 4

What is the concentration of $\text{Br}^-(\text{aq})$ in a solution prepared by mixing 75.0 mL of 0.62 M iron(III) bromide with 75.0 mL of water? Assume volumes are additive.

- a) 0.93 M
- b) 0.31 M
- c) 1.9 M
- d) 0.62 M
- e) 1.86 M

Question 5

Consider the thermite reaction:



2.5 g of Al is treated with 7.2 g of Fe_2O_3 . What is the theoretical yield (in g) of liquid iron?

- a) 5.17 g
- b) 0.233 g
- c) 5.03 g
- d) 2.51 g
- e) 0.873 g

ANSWERS

- Question 1 b
- Question 2 d
- Question 3 e
- Question 4 a
- Question 5 c