

Chem!stry

Name: ()

Class:

Date: / /

Periodic Table – Answers

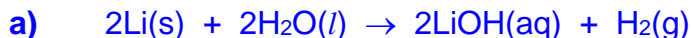
1. D	2. D	3. C	4. A	5. C
6. D	7. D	8. C	9. C	10. C
11. C	12. C	13. C	14. D	15. C
16. D	17. C	18. D	19. C	20. A

Question 21:

- a) chromium, magnesium or sodium
- b) chromium
- c) bromine
- d) bromine
- e) carbon

Question 22:

- a) N or P
- b) Mg or Ca
- c) Al or Fe
- d) F
- e) Rb or Cs

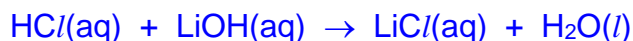
Question 23:

b) moles of lithium = mass \div molar mass
 $= 0.35 \div 7.0$
 $= 0.05 \text{ mol}$

from the balanced chemical equation, 2 mol of Li produces 2 mol of $\text{LiOH}_{(aq)}$

\therefore 0.05 mol of Li will produce 0.05 mol of $\text{LiOH}_{(aq)}$

the balanced chemical equation for the reaction between $\text{HCl}_{(aq)}$ and $\text{LiOH}_{(aq)}$ is:

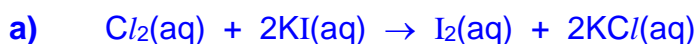


from the balanced chemical equation, 1 mol of $\text{HCl}_{(aq)}$ reacts with 1 mol of $\text{LiOH}_{(aq)}$

\therefore 0.05 mol of $\text{HCl}_{(aq)}$ will react with 0.05 mol of $\text{LiOH}_{(aq)}$

volume of solution = moles \div ($c \times 10^{-3}$)
 $= 0.05 \div (2.00 \times 10^{-3})$
 $= \underline{25.0 \text{ cm}^3}$

- c) The reaction between potassium and water is more vigorous than the reaction between lithium and water. When potassium reacts with water, the hydrogen gas ignites and burns with a lilac flame.

Question 24:

b) The pale yellow-green solution of aqueous chlorine will turn brown as the aqueous solution of iodine is produced.

c) The non-polar iodine molecules will dissolve in the non-polar hexane to form a purple solution.

Question 25:

a) A catalyst increases the rate of a chemical reaction.

b) Example: Iron is the catalyst used in the industrial manufacture of ammonia from nitrogen and hydrogen.

Question 26:

- a) Krypton.
- b) 10.
- c) density = mass \div volume
density = relative atomic mass of element \div molar volume of gas
density = (40 g/mol) \div (24 dm³)
density = 1.67 g/dm³
- d) Greater than 200 K, e.g. 210 K.
- e) The fractional distillation of liquefied air.
- f) Argon is more abundant than the other Noble Gases, comprising 1% of the Earth's atmosphere.