

Name \_\_\_\_\_ Date Due \_\_\_\_\_

## Prelim Revision Questions

1. Draw these carboxylic acids...
  - a. Methanoic acid
  - b. 2-methyl-propanoic acid
  - c. 4,4-ethyl-hexanoic acid
2. Draw these alcohols...
  - a. Propanol
  - b. Butan-2-ol
  - c. 2-methyl-butan-2-ol
3. Draw and name the esters made from...
  - a. 1a and 2a
  - b. 1b and 2b
  - c. 3b and 3b
4. A chemist with particularly good taste in shirts carried out an experiment which raised the temperature of  $300 \text{ cm}^3$  of water by  $20^\circ\text{C}$ . He then went home and ate leek and potato soup.
  - a. What was the energy change in the reaction?
  - b. What colour were the handsome chemist's socks?
  - c. Why did the leek and potato soup taste so good?
5. Name the salt made from...
  - a. Sodium hydroxide and sulphuric acid
  - b. Lithium carbonate and hydrochloric acid
  - c. Nitric acid and calcium hydroxide
  - d. Hydrobromic acid and strontium carbonate
6. Find the formula and calculate the gram formula masses of...
  - a. Hydrogen chloride
  - b. Sodium phosphide
  - c. Phosphorus pentafluoride
  - d. Iron(III) oxide
7. Find the mass of...
  - a. 0.3 moles of 6a
  - b. 1000 moles of 6b
  - c. 0.001 moles of 6c
  - d.  $\pi$  moles of 6d

8. Find the number of moles in ...
- 0.3 g of 6a
  - 1000 g of 6b
  - 0.001 g of 6c
  - $\pi$  g of 6d
9. 0.4 moles of an element has a mass of 4.8 g. What element is it?  
*Hint: What is the GFM of the element?*
10. How many moles are there in...
- 100 cm<sup>3</sup> of 0.1 mol/l HCl solution
  - 5 cm<sup>3</sup> of 0.5 mol/l H<sub>2</sub>SO<sub>4</sub> solution
  - 10 l of 5 mol/l HBr solution
  - 0.001 l of 7 mol/l HF solution
11. A chemist with beautiful, golden hair found that 40 cm<sup>3</sup> of a 0.1 mol/l solution of H<sub>2</sub>SO<sub>4</sub> could be neutralised by 10 cm<sup>3</sup> of NaOH. What was the concentration of the NaOH solution?
12. Another chemist who knew he was cool because he had a braid in his hair did an experiment one Saturday morning. It was a rainy day. He neutralised 20 cm<sup>3</sup> of 0.1 mol/l HCl with 20 cm<sup>3</sup> of a 0.2 mol/l alkali.
- How many "OH" ions are in the formula of the alkali
  - Write down the formula of a likely alkali.
  - Why is having a braid in your hair so cool?