NAME_____

Year 11 Chemistry Assignment
Water, Energy and Reactions

1. Explain why water droplets on a surface form a blob shape rather than being flat. /2
2. Calculate the energy required to heat 250mL of water from 10°C to 90°C. /2
3. Calculate the specific heat of a substance if 725g of it absorbs 8300 J and its temperature increases by 40°C. /3
4. Draw a graph of temperature against energy absorbed for some substance with a melting point of -25°C and a boiling point of 250°C. The initial temperature of the substance is -40°C and the final temperature is 350°C. /6
5. Describe two examples of practical situations which make use of latent heat being absorbed or released. /4
6. Write a balanced ionic equation for the reaction between solutions of magnesium sulfate and silver nitrate. /2
7. Write a balanced ionic equation for the reaction between hydrochloric acid and iron metal. /2
8. Write a balanced ionic equation for the reaction between sodium metal and water. /2
9. A sample of a salt is known to be either a sodium, potassium, mercury or silver salt. Explain how you could determine which it is. /4
10. Given a sample of water, describe how you could tell if the water was 'hard' or not. /2
11. List the ions likely to be found in hard water. Identify any which are likely to be found in only water with permanent hardness or only water with temporary hardness. /2
12. Explain how you could tell if a sample of hard water has temporary hardness or permanent hardness. /2

TOTAL /33