

**Extended answer. (10 marks)**

1. Reaction rates can be increased in a number of ways.

Name two of them and explain why they increase the rate of the reaction.

(4 marks)

↑ Temperature (1/2) ↑ speed of particles resulting in more frequent collisions ↑ rate of reaction.

↑ concentration (1) Particles more likely to collide and allows bonds to break & reform (1)  
See p 164 - 166 Pearson 8 for other.

2. There are groups on the periodic table with special characteristics. These are groups 1, 17, 18 on the periodic table

Name each of these groups and outline the special characteristics demonstrated by each of them.

(6 marks)

Alkali (1/2)  
(1) ~~hydro~~ metals - form +1 ions, too reactive to be found free in nature, have typical metallic properties (lustre et) react with  $H_2O$  to form alkalis (any 3 = 1 1/2 marks)

(17) Halogens (1/2) - form ions with -1, not found free in nature, ~~get~~ get bigger and less reactive as the group goes down, have coloured and poisonous gases, diatomic (any 3 = 1 1/2 marks)

Group 18 - Noble gases/inert (1/2) colourless, occur naturally in the atmosphere, incredibly stable, atoms get larger as the group goes down (any 3 = 1 1/2 marks)