

New
Specification



Rewarding Learning

ADVANCED
General Certificate of Education
2018

Chemistry
Assessment Unit A2 3
assessing
Further Practical Chemistry
Practical Booklet A
[ACH31]
THURSDAY 10 MAY, MORNING

MARK
SCHEME

1 (a) The table should:

- be boxed
- have headings
- have units included
- have appropriate numbers, i.e. temperature recorded to a whole number or 0.5, e.g. 18.5
- have temperature rise calculated correctly

e.g.

volume of sulfuric acid /cm ³	initial temperature /°C	final temperature /°C	temperature rise /°C
5	18	24	6
10	18	28	10
15	18	26	8
20	18	25	7
25	18	24	6

(-1 for each mistake)

the last column is not obligatory temperature rise or temperature change

[2]

(b) Add [1] the (two uncertainties) together [1]

[2]

(c) X: volume of (sulfuric) acid/cm³
Y: temperature change/°C

[1]

Points plotted correctly using the results table

[1]

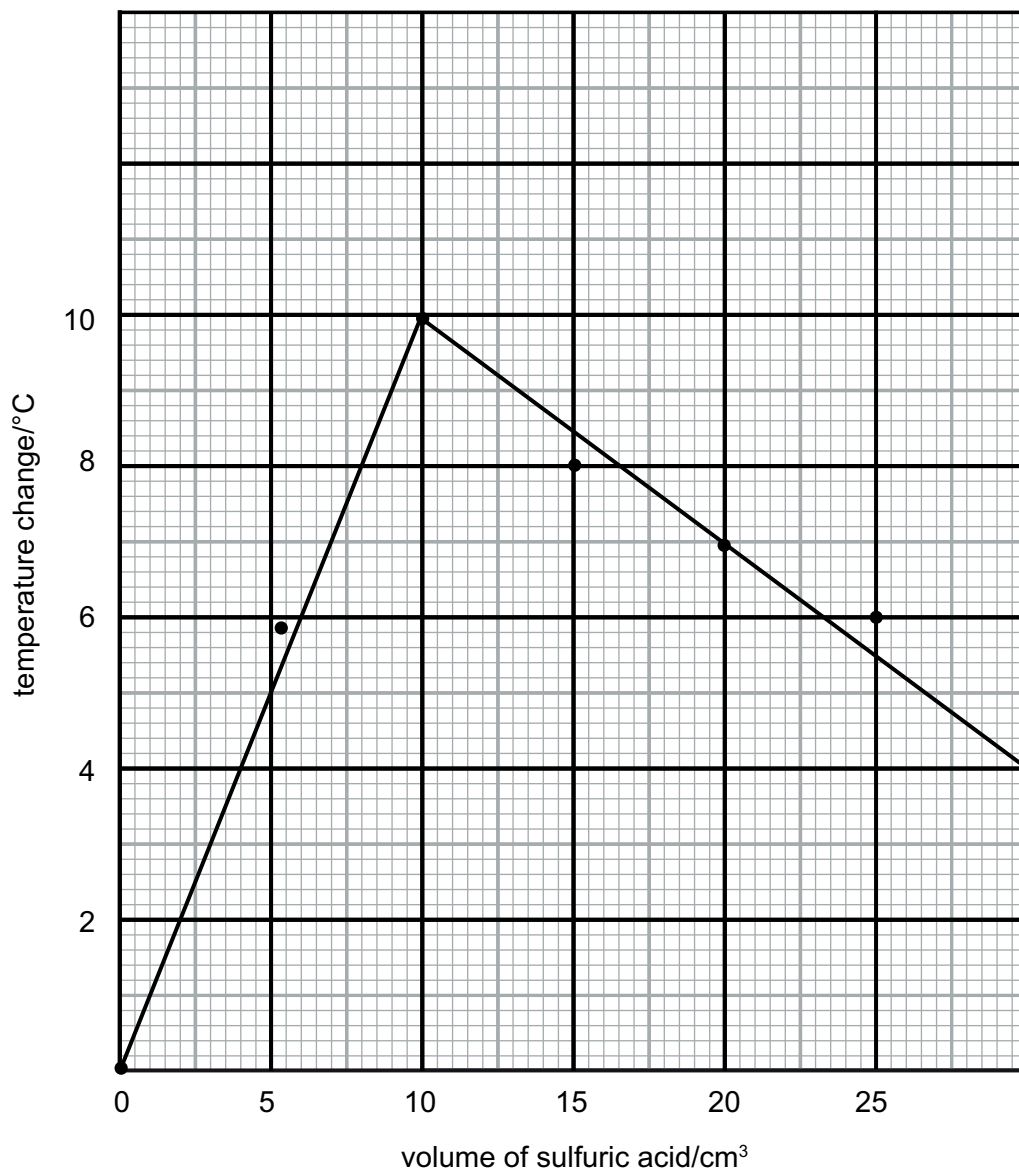
The line/curve of best fit correctly drawn

[1]

0,0 point used

[1]

8



2 A = Copper(II) oxide
B = Zinc oxide

- (a) Blue solution formed and black solid disappears/remains [1]
- (b) (i) Blue precipitate [1]
- (ii) Blue colour fades [1] heat produced [1]
Red/brown solid forms [1] fizz/effervescence [1] [4]
- (iii) Turns yellow/green [1]
- (c) (i) White solid turns yellow [1]
- (ii) Yellow solid turns white [1]
- (d) (i) (White solid) dissolves/disappears [1]
- (ii) White [1] precipitate [1] [2]

3 X = propanone; Y = ethanol; Z = ethanoic acid

Test	Observations		
	X	Y	Z
Place 2 cm ³ of the liquid in a test tube and add 2–3 cm ³ of dilute sulfuric acid followed by 2 cm ³ of potassium manganate(VII) solution. Leave the test tube for 5 minutes.	No change/ reaction	Solution turns from purple to colourless	No change/ reaction
Test each liquid with Universal Indicator solution. Record the pH of the liquid in the test tube.	pH 7	pH 7	pH 2–4
Place a few drops of the liquid on a watch glass and carefully touch the liquid with a lighted splint.	Burns with a yellow/orange flame	Burns with a yellow-blue flame	Does not burn
Place 2 cm ³ of the liquid in a test tube and add 1 cm of magnesium ribbon.	No change/ reaction	No change/ reaction	Effervescence /fizzing

[-1] for each error

[10]

Total

**AVAILABLE
MARKS**

10

30