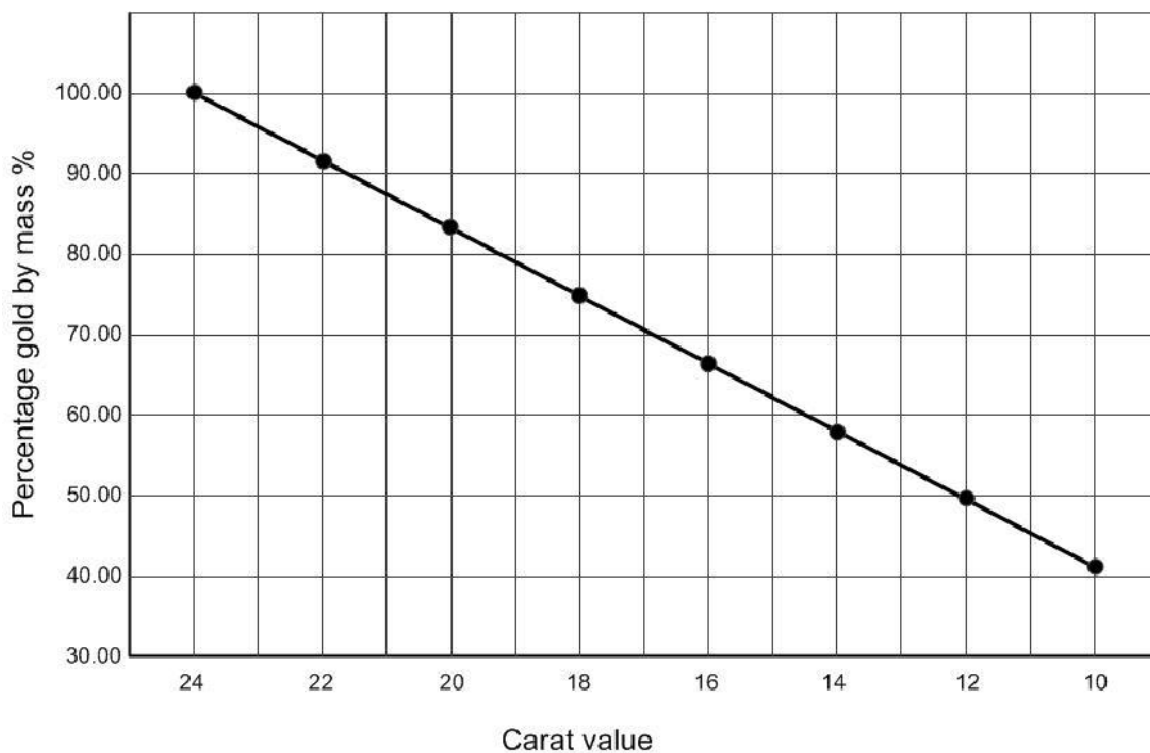


1. The purity of gold is measured in carats.

24 carat gold is almost pure gold.

Gold with lower carat values is an alloy which contains other metals such as silver and copper.

The graph shows how the percentage of gold by mass is related to its carat value.



Gold, silver and copper are transition metals.

Transition metals are different from metals in Group 1.

Compare chemical properties of transition metals with the chemical properties of Group 1 metals?

[2]

2(a). Mendeleev put some of the transition metals into his Group 8.

He put some other transition metals into the other groups.

Give the symbols for **three** transition metals in Mendeleev's table that he did **not** put in Group 8.

1

2

3

[2]

(b). The transition metals are in the same block of the modern Periodic Table because their properties are similar to each other.

Which property do all the transition metals have?

Tick (✓) **one** box.

They act as catalysts in reactions.

They have low melting points and boiling points.

They react very quickly with cold water.

They are coloured gases at room temperature.

[1]

END OF QUESTION PAPER

Question		Answer/Indicative content	Marks	Guidance
1		<p>any two from:</p> <p>group 1 metal only form ion with +1 charge whereas transition metals form ions with variable charges ✓</p> <p>group 1 metals produce white compounds whereas transition metals produce coloured compounds ✓</p> <p>transition metals act as catalysts whereas group 1 metals do not ✓</p>	2	IGNORE comments on density / melting point
		Total	2	
2	a	In any order: Cu Zn Cr ✓✓	2 (AO 2× 2.1)	<p>ALLOW names</p> <p>IGNORE Fe Co Ni</p> <p>DO NOT ALLOW any other additional elements (apply list principle)</p> <p>All three correct = 2 marks</p> <p>Two or one correct = 1 mark</p> <p><u>Examiner's Comments</u></p> <p>Most earned at least one mark for identifying one transition metal correctly. Others either included non-transition metals in the list or used their periodic table to find examples of transition metals that were not from Mendeleev's table. It is important that candidates read the question carefully to ensure that they follow the instructions.</p>
	b	They act as catalysts in reactions ✓	1 (AO 1.1)	
		Total	3	