Paper 1

Questions are applicable for both core and extended candidates

1 The properties of the element titanium, Ti, can be predicted from its position in the Periodic Table.

Which row identifies the properties of titanium?

	can be used as a catalyst	conducts electricity when solid	has low density	forms coloured compounds
A	✓	✓	✓	✗
B	✓	✓	✗	✓
C	✓	✗	✓	✓
D	✗	✓	✓	✓

2 Which statement describes transition elements?

A They have high densities and high melting points.

B They have high densities and low melting points.

C They have low densities and high melting points.

D They have low densities and low melting points.

3 Which row describes the properties of a typical transition element?

	melting point	forms coloured compounds	can act as a catalyst
A	high	no	no
B	high	yes	yes
C	low	no	yes
D	low	yes	no

4 The table gives some properties of an element.

melting point in °C	3422
appearance of the element	grey
appearance of the chloride of the element	dark blue
density in g / cm^3	19.2
electrical conductivity when solid	good

Which other property does this element have?

A acts as a catalyst

B brittle

C forms an acidic oxide

D highly reactive with water

5 Which statement describes a transition element?

A It can act as a catalyst and some of its compounds can also act as catalysts.

B It forms white compounds with sulfur, oxygen, chlorine and bromine.

C It has a low density and a piece of it will float on water.

D It is a very poor conductor of electricity.

Paper 2

Questions are applicable for both core and extended candidates unless indicated in the question

6 Which property of copper explains why it is classified as a transition element? **(extended only)**

A Copper can be bent into different shapes.

B Copper forms Cu^{2+} and Cu^{+} ions.

C Copper is a good conductor of electricity.

D Copper has a low density.

7 Which statement describes transition elements?

A They have high densities and high melting points.

B They have high densities and low melting points.

C They have low densities and high melting points.

D They have low densities and low melting points.

8 Which compound is likely to be coloured?

A $KMnO_4$ **B** KNO_3 **C** K_2CO_3 **D** K_2SO_4

9 Which row describes the properties of a typical transition element? **(extended only)**

	melting point	variable oxidation number	can act as a catalyst
A	high	no	no
B	high	yes	yes
C	low	no	yes
D	low	yes	no

10 Which statements describe properties of transition elements? **(extended only)**

1 They form coloured compounds.

2 They have variable oxidation states.

3 They have low densities.

4 They are volatile.

A 1 and 2 **B** 1 and 4 **C** 2 and 3 **D** 3 and 4