

1. 0620/11/O/N/19/No.20

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Which set of elements shows the change from metallic to non-metallic character across a period of the Periodic Table?

- A** beryllium → magnesium → calcium
B fluorine → bromine → iodine
C oxygen → boron → lithium
D sodium → silicon → chlorine

2. 0620/11,12,13,21,22,23/O/N/19/No.21,24

Which pair of elements reacts together most violently?

- A** chlorine and lithium
B chlorine and potassium
C iodine and lithium
D iodine and potassium

3. 0620/11/O/N/19/No.22

What is **not** a typical property of a transition element?

- A** acts as a catalyst
B forms coloured compounds
C has a high melting point
D has a low density

4. 0620/11,21/O/N/19/No.23

Part of the Periodic Table is shown.

Which element is used to provide an inert atmosphere?

A simplified periodic table grid is shown, consisting of a 4x10 grid of squares. The grid is divided into four main sections by a large gap in the middle. The sections are:

- Top Left:** A 2x2 grid of squares.
- Top Right:** A 2x4 grid of squares.
- Bottom Left:** A 2x8 grid of squares.
- Bottom Right:** A 2x4 grid of squares.

The elements are marked as follows:

- A:** Located in the top center, above the gap between the two main sections.
- B:** Located in the top right section, in the second row from the top, third column from the right.
- C:** Located in the top right section, in the first row from the top, fourth column from the right.
- D:** Located in the bottom left section, in the second row from the bottom, eighth column from the left.

5. 0620/12/O/N/19/No.20

Which statements describe changes that occur from left to right across a period of the Periodic Table?

- 1 The atomic number of the elements increases.
- 2 The metallic character of the elements decreases.
- 3 The physical state of the elements changes from gas to solid.

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

6. 0620/12/O/N/19/No.22

Which is a typical property of transition elements?

- A** can act as catalysts
- B** poor electrical conductivity
- C** low melting point
- D** low density

7. 0620/12,22/O/N/19/No.23

Helium is a noble gas.

Which statement about helium is correct?

- A** It has eight electrons in its outer shell.
- B** It is a diatomic gas.
- C** It is reactive.
- D** It is used for filling balloons.

8. 0620/13/O/N/19/No.20

Which element from Period 3 of the Periodic Table has the most metallic character?

- A** aluminium
- B** magnesium
- C** silicon
- D** sodium

9. 0620/13/O/N/19/No.22

Which statement does **not** describe a transition element?

- A It is used as a catalyst in industrial reactions.
- B It has white compounds and gives a yellow flame test.
- C It produces a black oxide and a blue sulfate.
- D It forms green, violet and orange compounds.

10. 0620/13,23/O/N/19/No.23

Which statement describes a gas which is in Group VIII of the Periodic Table?

- A A colourless gas that helps substances burn.
- B A pollutant gas present in car exhausts.
- C A gas that is less dense than air and makes a 'pop' sound with a lighted splint.
- D A gas that is used in lamps.

11. 0620/21/O/N/19/No.25

Which pair of compounds shows that transition elements have variable oxidation states?

- A Cr_2O_3 and CrBr_3
- B CuSO_4 and CuCl_2
- C Fe_2O_3 and FeCl_2
- D NiO and NiCl_2

12. 0620/22/O/N/19/No.25

Iron(II) ions can be oxidised to iron(III) ions by hydrogen peroxide.

Which statement explains why iron is a transition element?

- A Iron is a transition element because it can be oxidised.
- B Iron is a transition element because it has variable oxidation states.
- C Iron is a transition element because it takes part in redox reactions.
- D Iron is a transition element because it reacts with chlorine.

13. 0620/23/O/N/19/No.25

Iron reacts with dilute hydrochloric acid to form iron(II) chloride, FeCl_2 . Iron reacts with chlorine to form iron(III) chloride, FeCl_3 .

Which property of transition elements is shown by this information?

- A Transition elements have high melting points.
- B Transition elements can act as catalysts.
- C Transition elements have variable oxidation states.
- D Transition elements have coloured compounds.

