

SECTION B

Answer ALL questions. Write your answers in the spaces provided.

11 A section from the periodic table is shown.

Element symbol	Zr	Nb	Mo	Tc	Ru	Rh	Pd
Atomic number	40	41	42	43	44	45	46

Technetium (Tc) is produced when a deuterium ion collides with a nucleus of one of the other elements shown in the table. In this process a number of neutrons are also released.

Deuterium is an isotope of hydrogen with 1 proton and 1 neutron.

Complete the nuclear equation to determine the element and the number of neutrons released.



(Total for Question 11 = 3 marks)