7 A uranium-235 nucleus absorbs a neutron and then splits into two nuclei. A possible nuclear reaction is given by
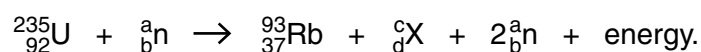
$$^{235}_{92}U + ^{a}_{b}n \rightarrow ^{93}_{37}Rb + ^{c}_{d}X + 2^{a}_{b}n + energy.$$

(a) State the constituent particles of the uranium-235 nucleus.

.... [1]

(b) Complete Fig. 7.1 for this reaction.

	value
a	
b	
c	
d	

[3]

Fig. 7.1

(c) Suggest a possible form of energy released in this reaction.

.... [1]

(d) Explain, using the law of mass-energy conservation, how energy is released in this reaction.

....

....

.... [2]