7 In the decay of a nucleus of $^{210}_{84}$Po, an α-particle is emitted with energy 5.3 MeV.

The emission is represented by the nuclear equation

$$^{210}_{84}\text{Po} \rightarrow {}^{A}_{B}\text{X} + \alpha + \text{energy}$$

(a) (i) On Fig. 7.1, complete the number and name of the particle, or particles, represented by A and B in the nuclear equation.

	number	name of particle or particles
A		
B		

Fig. 7.1

[1]

(ii) State the form of energy given to the α-particle in the decay of $^{210}_{84}$Po.

.....[1]

(b) A sample of polonium $^{210}_{84}$Po emits 7.1×10^{18} α-particles in one day.

Calculate the mean power output from the energy of the α-particles.

power = ... W [2]

BLANK PAGE