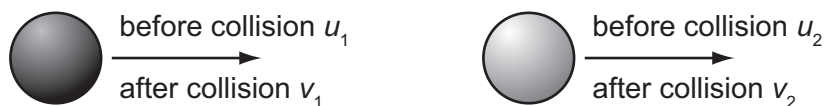


- 10 A stationary nucleus has nucleon number A .

The nucleus decays by emitting a proton with speed v to form a new nucleus with speed u . The new nucleus and the proton move away from one another in opposite directions.

Which equation gives v in terms of A and u ?

- A $v = (\frac{A}{4} - 1)u$
 B $v = (A - 1)u$
 C $v = Au$
 D $v = (A + 1)u$
- 11 Two spheres travel along the same line with velocities u_1 and u_2 . They collide and after collision their velocities are v_1 and v_2 .



Which collision is **not** elastic?

	u_1/ms^{-1}	u_2/ms^{-1}	v_1/ms^{-1}	v_2/ms^{-1}
A	2	-5	-5	-2
B	3	-3	0	6
C	3	-2	1	6
D	5	2	3	6

Space for working