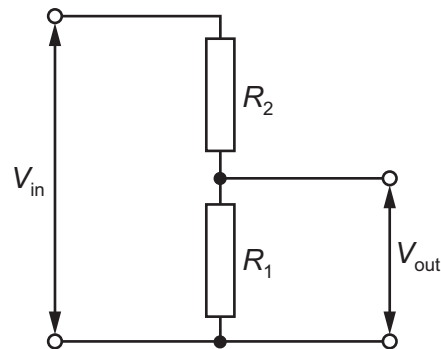


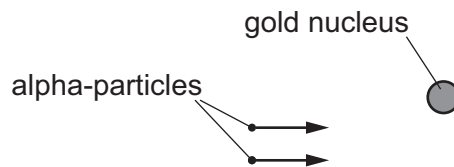
- 37 A potential divider consists of two resistors of resistances R_1 and R_2 connected in series across a source of potential difference (p.d.) V_{in} . The p.d. across R_1 is V_{out} .



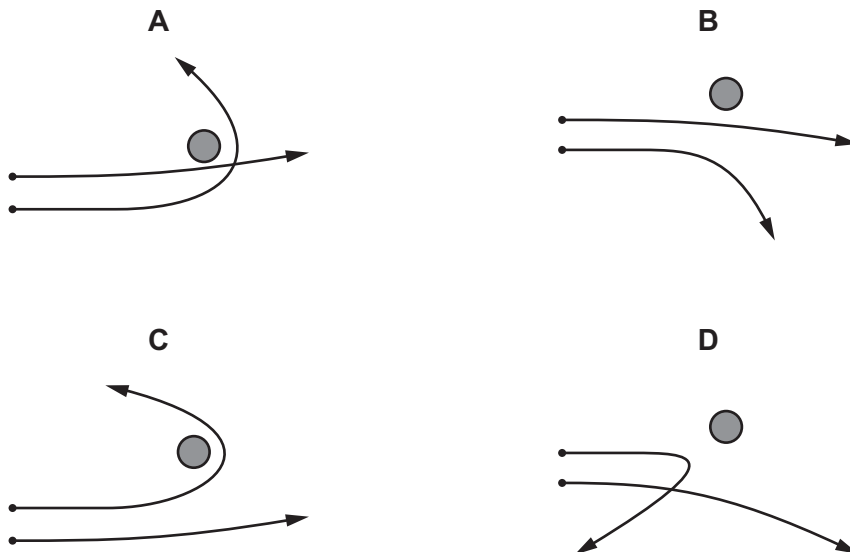
Which changes to R_1 and R_2 will increase the value of V_{out} ?

	R_1	R_2
A	doubled	doubled
B	doubled	halved
C	halved	doubled
D	halved	halved

- 38 Two alpha-particles with the same kinetic energy are moving towards, and are then deflected by, a gold nucleus.



Which diagram could show the paths of the two alpha-particles?



39 Which nuclide is formed when $^{10}_6\text{C}$ undergoes β^+ decay?

- A $^{11}_6\text{C}$ B ^9_6C C $^{10}_5\text{B}$ D $^{10}_7\text{N}$

40 A particular hadron is composed of three quarks and has zero charge.

What is a possible quark composition of the hadron?

- A down, down, strange
B up, down, strange
C up, up, down
D up, up, strange



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