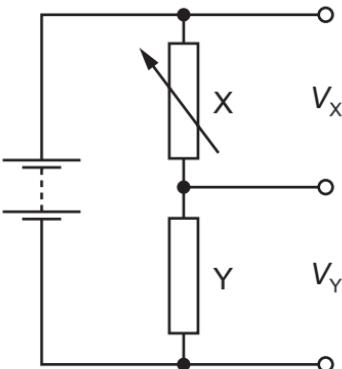


- 36 A potential divider circuit is constructed with one variable resistor X and one fixed resistor Y, as shown.



The potential difference across resistor X is  $V_X$  and the potential difference across resistor Y is  $V_Y$ .

As the resistance of X is increased, what happens to  $V_X$  and to  $V_Y$ ?

	$V_X$	$V_Y$
A	falls	rises
B	falls	stays the same
C	rises	falls
D	rises	stays the same

- 37 A coil of 50 turns of wire (resistivity  $\rho$ ) is wound tightly onto a rectangular frame of height  $h$  and width  $w$ . The frame has a total mass of  $m$ . The frame is suspended from a string attached to its top edge. The frame is rotated through an angle of  $90^\circ$  about its top edge and then released. The time taken for the frame to fall vertically downwards is