A piece of copper wire carries some electrical current $I$. The drift velocity $v_d$ of charge-carriers in the wire is $v_d = 1 \times 10^{-4} \text{ m/s} = 0.1 \text{ mm/s}$.

Suppose the length of the wire is doubled, but the current remains the same. What happens to the drift velocity?

(a) It is doubled
(b) It is quadrupled
(c) It is halved
(d) It is cut by 4
(e) Something else
(f) Cannot tell, need more information

Answer: ____________________

Now, suppose instead of changing the length, the cross-sectional area of the wire is doubled, with the current remaining the same. What happens to the drift velocity?

(a) It is doubled
(b) It is quadrupled
(c) It is halved
(d) It is cut by 4
(e) Something else
(f) Cannot tell, need more information

Answer: ____________________

Now, suppose that instead of changing the length or the area, a different conductor with exactly twice the resistivity is used, with the current remaining the same. What happens to the drift velocity?

(a) It is doubled
(b) It is quadrupled
(c) It is halved
(d) It is cut by 4
(e) Something else
(f) Cannot tell, need more information

Answer: ____________________