

Condition:

Eight equal charged drops having potential 10V are combined to form a big drop. Then potential of big drop is: _____ .

Solution:

Potential of big drop = Square of cube root of number of drops \times potential of each of small identical drop.

$$\text{Or, } V' = n^{\frac{2}{3}}V.$$

Here, $n=8$ and $V = 10$ volt

$$V' = (8)^{\frac{2}{3}} \times 10 = 4 \times 10 = 40 \text{ volt.}$$

Answer: 40 volt.