

Task.

1 volt is equal to

- a) 1 watt/C
- b) 1 J/s C
- c) 1 J/C
- d) 1 N/C

Solution. Notice that volts are the units of electric potential V of a static electric field E . It is known that the potential energy U_E of a charge q can be computed by the formula:

$$U_E = qV.$$

Since U_E is measured in joules, J, and q in coulombs, C, we obtain that

$$1 J = 1 C * 1 V,$$

whence

$$1 V = 1 J/C.$$

Thus the correct answer is c).