

Practicing Calculating Net E, F, V, and PE. Example 1

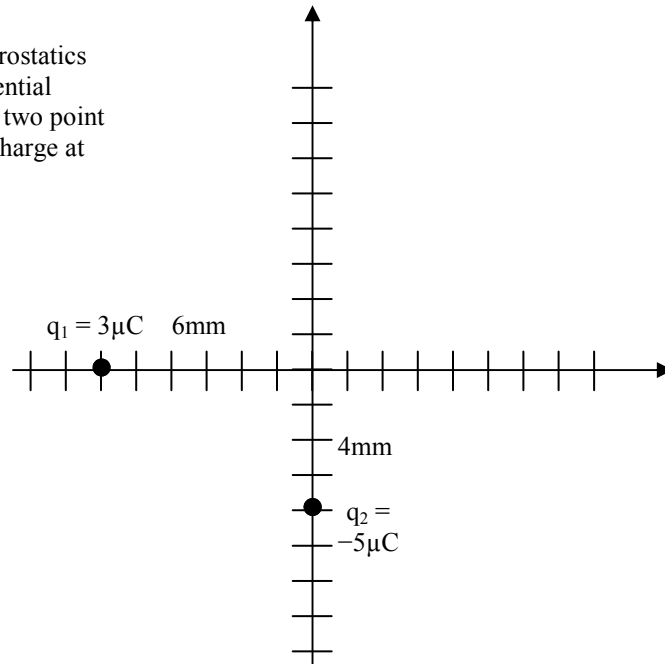
Instructions:

Page 1 the example;

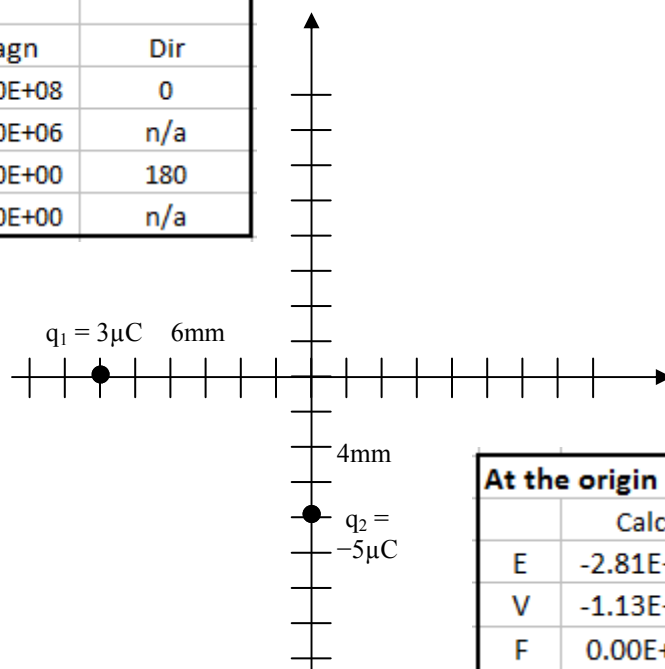
Page 2 individual calculated quantities, but not the net quantities, so you can check this intermediate stage;

Page 3 the net quantities.

Example 1) Find the net electrostatics field, force, potential, and potential energy at the origin due to the two point charges shown. There is no charge at the origin.



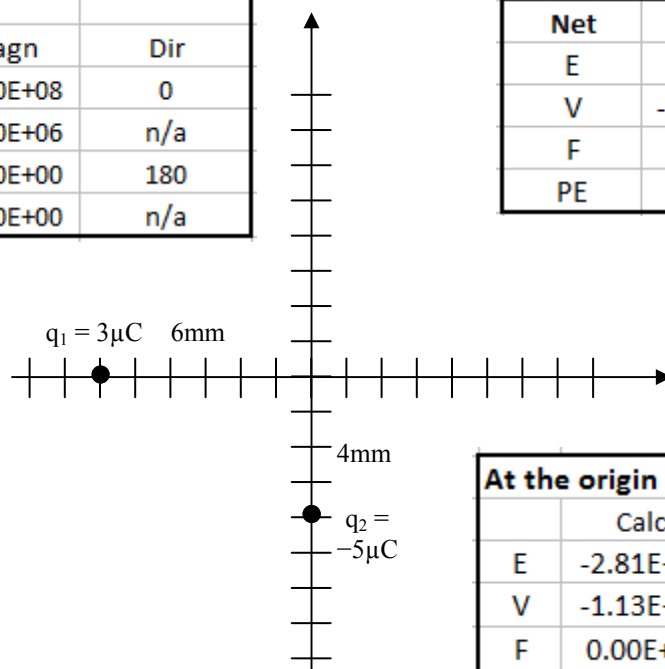
At the origin due to q1			
	Calc.	magn	Dir
E	7.500E+08	7.500E+08	0
V	4.500E+06	4.500E+06	n/a
F	0.000E+00	0.000E+00	180
PE	0.000E+00	0.000E+00	n/a



At the origin due to q2			
	Calc.	magn	Dir
E	-2.81E+09	2.813E+09	270
V	-1.13E+07	-1.125E+07	n/a
F	0.00E+00	0.000E+00	270
PE	0.00E+00	0.000E+00	n/a

At the origin due to q1			
	Calc.	magn	Dir
E	7.500E+08	7.500E+08	0
V	4.500E+06	4.500E+06	n/a
F	0.000E+00	0.000E+00	180
PE	0.000E+00	0.000E+00	n/a

Net	magn	Dir
E	2.91E+09	-75.1
V	-6.75E+06	n/a
F	0.00E+00	#####
PE	0.00E+00	n/a



At the origin due to q2			
	Calc.	magn	Dir
E	-2.81E+09	2.813E+09	270
V	-1.13E+07	-1.125E+07	n/a
F	0.00E+00	0.000E+00	270
PE	0.00E+00	0.000E+00	n/a