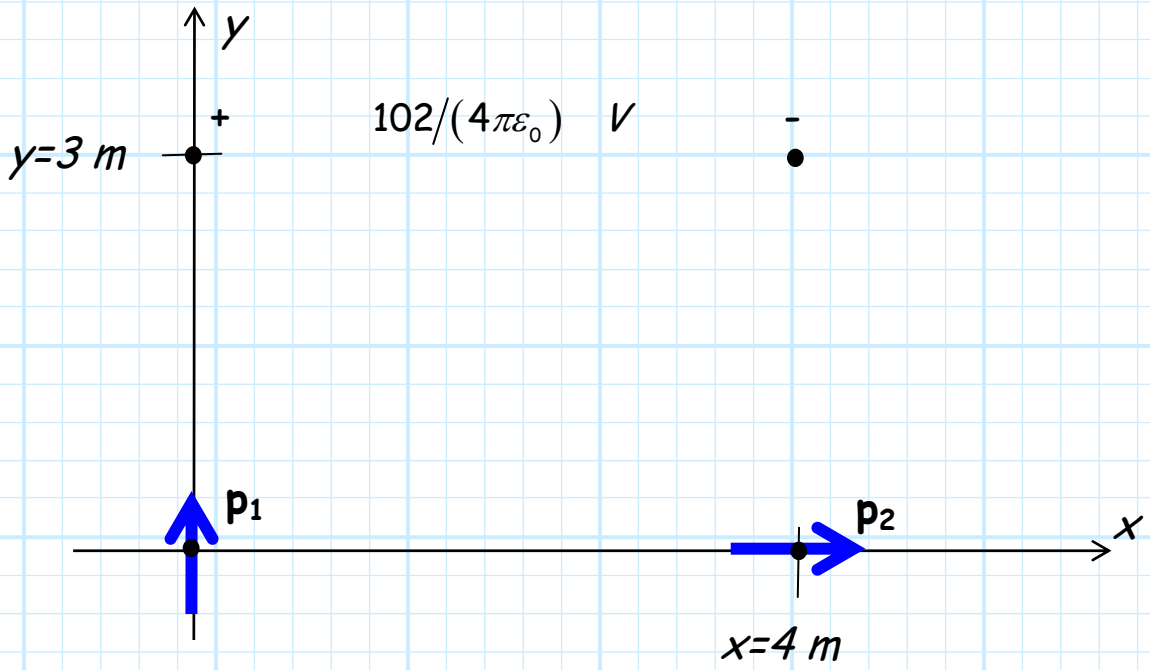
Special Problem 4-6.9

Two **electric dipoles** are located in **free space**.

The first dipole is located at the origin, and has a dipole moment of $\mathbf{p}_1 = 1125\,\hat{\mathbf{a}}_y$.

The second dipole is located at a point (x =4, y =0, z =0), and has a dipole moment of $\mathbf{p}_2 = p_2\,\hat{\mathbf{a}}_x$.

The electric potential **difference** between point x = 0, y = 3, z = 0 and point x = 4, y =3, z =0 is $102/(4\pi\varepsilon_0)$ volts.



Determine the **magnitude** of dipole moment $\mathbf{p}_2$.