1 Linear Quadrupole (w/o series)

Consider a collection of three charges arranged in a line along the z-axis: charges $+Q$ at $z = \pm D$ and charge $-2Q$ at $z = 0$.

(a) Find the electrostatic potential at a point $\vec{r}$ on the x-axis at a distance x from the center of the quadrupole.

(b) A series of charges arranged in this way is called a linear quadrupole. Why?