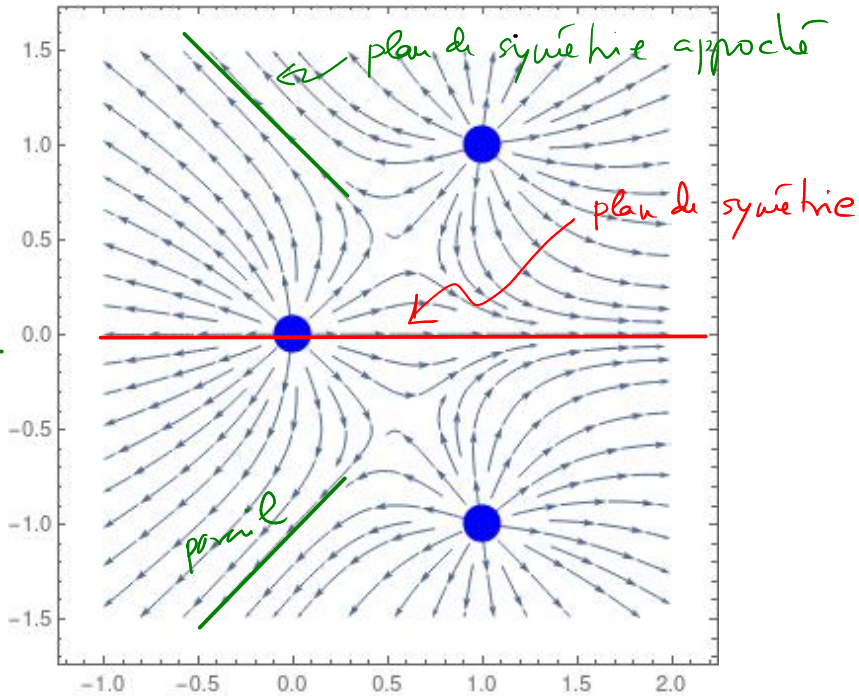


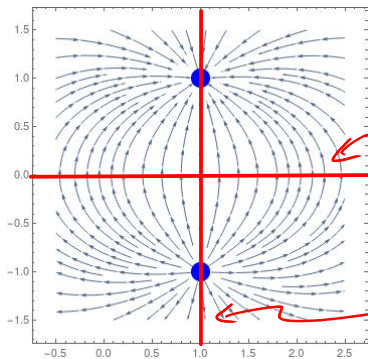
1-



$$2- \vec{E}(x, 0) = \frac{q}{4\pi\epsilon_0} \left[\frac{\text{sign}(x)}{x^2} + \frac{2}{[(x-1)^2+1]^{3/2}} \right] \hat{x}$$

$$3- V(x, 0) = \frac{q}{4\pi\epsilon_0} \left[\frac{1}{|x|} + \frac{2}{\sqrt{(x-1)^2+1}} \right]$$

4-



plan d'antisymétrie

plan de symétrie

$$5. \vec{E}(x,0) = \frac{q}{4\pi\epsilon_0} \frac{2}{[(x-1)^2+1]^{3/2}} \hat{y} = (1)$$

$$6. V(x,y) = \frac{q}{4\pi\epsilon_0} \left[\frac{-1}{\sqrt{(x-1)^2+(y-1)^2}} + \frac{1}{\sqrt{(x-1)^2+(y+1)^2}} \right]$$

$$\vec{E} = -\vec{\nabla} V(x,y) = \frac{q}{4\pi\epsilon_0} \left[-\frac{(x-1)\hat{x} + (y-1)\hat{y}}{[(x-1)^2+(y-1)^2]^{3/2}} + \right.$$

$$\left. + \frac{(x-1)\hat{x} + (y+1)\hat{y}}{[(x-1)^2+(y+1)^2]^{3/2}} \right] \Rightarrow \vec{E}(x,0) = (1) \quad \checkmark$$