## 1. Field plots

a.	Is this force separable in Cartesian coordinates? Explain your reasoning, and circle at least two	•		•	, ,	` `	` `	י י	י י	י י	•	ו נ				, ,		,	۰ ،	, ,	•
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c. Is this force separable in Cartesian coordinates? Explain your reasoning, and circle at least two places that help you decide.

d. Is it conservative? Explain your reasoning.

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## 2. Equations

Are these forces separable in Cartesian coordinates? Show your work in detail.

a) 
$$\vec{F} = \beta z \hat{i} + \sin(ky) \hat{j} + \beta x \hat{k}$$

b) 
$$\vec{F} = \left(\frac{-\alpha x}{\sqrt{x^2 + y^2}}\right)\hat{i} + \left(\frac{-\alpha y}{\sqrt{x^2 + y^2}}\right)\hat{j}$$

c)  $\vec{F} = e^{i\alpha(x+y)}\hat{i} + e^{i\beta(y+x)}\hat{j} + e^{\gamma z}\hat{k}$