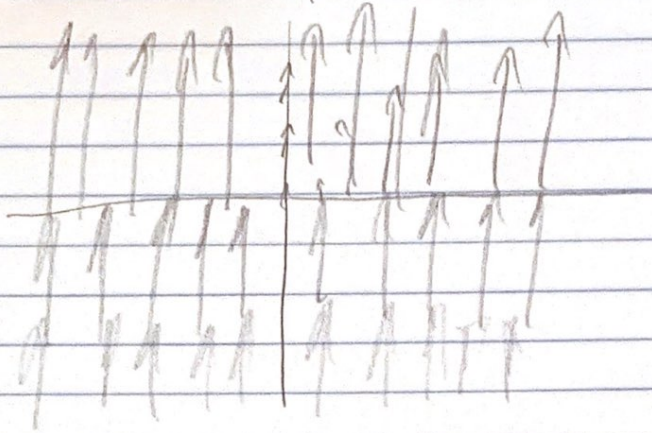


Quiz 17

1.



2. $F = (y \cos(xy), x \cos(xy))$

$$\begin{array}{ccc} \uparrow & \uparrow & \uparrow \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ y \cos(xy) & x \cos(xy) & 0 \end{array}$$

$$\uparrow \left[\frac{\partial}{\partial y} (0) - \frac{\partial}{\partial z} (x \cos(xy)) \right]$$

$$-\downarrow \left[\frac{\partial}{\partial x} (0) - \frac{\partial}{\partial z} (y \cos(xy)) \right]$$

$$+\uparrow \left[\frac{\partial}{\partial x} (x \cos(xy)) - \frac{\partial}{\partial y} (y \cos(xy)) \right] = 0 \quad \text{Conservative}$$

$$f_x = y \cos(xy) \quad f_y = x \cos(xy)$$

$$f = \int y \cos(xy) dx = \sin(yx) + g(y, z)$$

$$f_y = x \cos(xy) \\ x \cos(xy) + g_y = x \cos(xy)$$