

# Vector Fields

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# Vector Field Practice Problems

- 1 Draw the vector field  $\mathbf{F} = \langle y, 1 \rangle$  by drawing the vectors at every integer coordinate in the rectangle  $[-2, 2] \times [2, 2]$ .
- 2 Find the divergence and curl of  $\mathbf{F} = \langle \frac{y}{x}, \frac{y}{z}, \frac{z}{x} \rangle$ .

## Challenge Problems

- 1 Find the divergence and curl of  $\mathbf{F} = \langle \sin(x + z), 0, -ye^{xz} \rangle$ .
- 2 Prove the linearity rules for divergence and curl.