Divergence

Tuesday, February 1, 2022 11:19 AM

G problem 15

Calculate the divergence of the following vectors

$$\bar{V}_a = x^2 \hat{i} + 3xz^2 \hat{j} - 2xz \hat{k}$$

$$\nabla \cdot \bar{V}_a = 2x - 2x = 0$$

$$\bar{V}_b = xy \hat{i} + 2yz \hat{j} + 3zx \hat{k}$$

$$\nabla \cdot \bar{V}_b = y + 2z + 3x$$

$$\bar{V}_c = y^2 \hat{i} + (2xy + z^2) \hat{j} + 2yz \hat{k}$$

$$\nabla \cdot \bar{V}_c = 2x + 2y$$