

**Special Problem 2-5.16**

Consider the vector field  $\mathbf{A}(\vec{r})$ :

$$\mathbf{A}(\vec{r}) = \rho^2 \hat{a}_x + \rho z \hat{a}_y$$

There exists a **contour**  $\mathcal{C}$  in space where at **every** point along the contour, vector  $\mathbf{A}$  has the quantity:

$$\mathbf{A}(\vec{r}_c) = 4 \hat{a}_x + 6 \hat{a}_y$$

Describe this contour  $\mathcal{C}$  **mathematically**.

**Hint:** How **do** we mathematically describe/specify contours?