Vector derivatives

1. Let $\mathbf{r}(t)$ be a vector function. Prove by using components that

$$\frac{d\mathbf{r}}{dt} = \mathbf{0} \;\Rightarrow\; \mathbf{r}(t) = \mathbf{K}, \text{ where } \mathbf{K} \text{ is a constant vector.}$$

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