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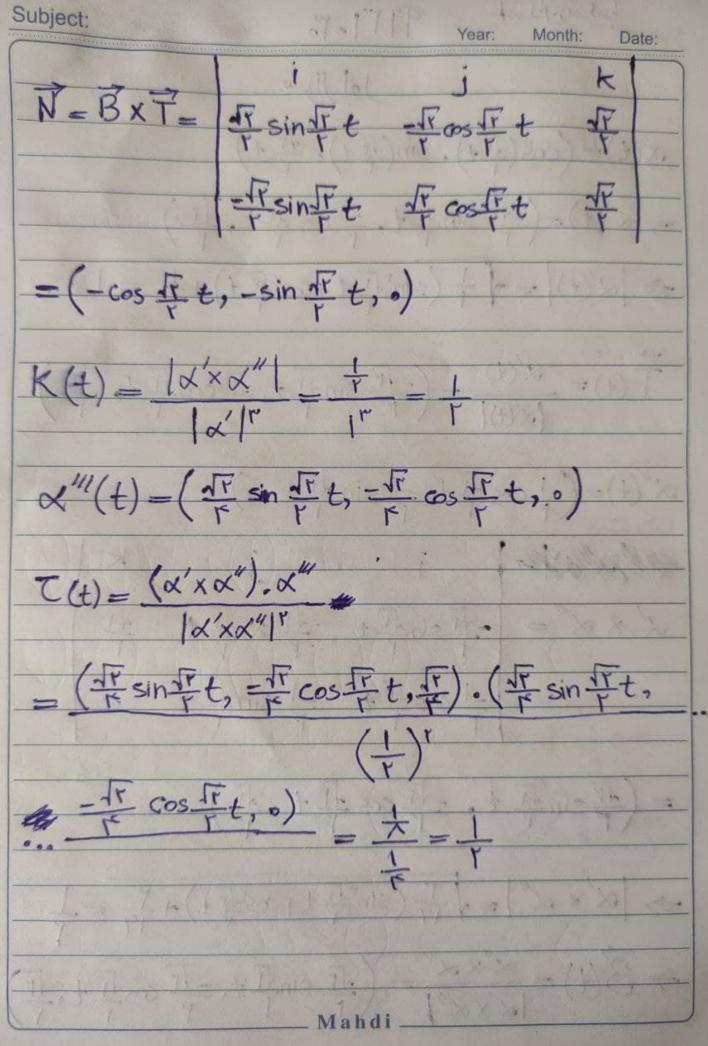
سوال اول

$$\alpha(t) = (\cos(\sqrt{r}t), \sin(\sqrt{r}t), \sqrt{r}t)$$

$$\Rightarrow |x'(t)| = \sqrt{\frac{1}{r}(\sin^2 \sqrt{r}t + \cos^2 \sqrt{r}t)} + \frac{1}{r}$$

$$\overrightarrow{T}(t) = \frac{\alpha'(t)}{|\alpha'(t)|} = \left(\frac{-\sqrt{r}}{r} \sin \sqrt{r} t, \sqrt{r} \cos \sqrt{r} t, \sqrt{r}\right)$$

$$\frac{2}{\sqrt{x}} = -\frac{\sqrt{r}}{\sqrt{r}} \sin \frac{\sqrt{r}}{r} t - \frac{\sqrt{r}}{\sqrt{r}} \cos \frac{\sqrt{r}}{r} t - \frac{\sqrt{r}}{r} \cos \frac{\sqrt{r}}{r} t - \frac{1}{r} \sin \frac{\sqrt{r}}{r} t = 0$$



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$$\Rightarrow \beta(t) = \sqrt{\Gamma} T(t) + \sqrt{\Gamma} \beta(t) + \sqrt{\Gamma} \beta(t)$$

$$K = \frac{|\beta' \times \beta''|}{|\beta'|^{m}} = \frac{|\gamma \wedge \beta''|}{|\gamma \wedge \beta''|} = \frac{|\gamma \wedge \beta''|}$$

Mahdi

Subject: