

Subject: Session 19 Problems

Year. Month. Date. ()

1.

$$\mathbf{r}_1 \times \mathbf{r}_2 = \begin{vmatrix} i & j & k \\ x_1 & y_1 & z_1 \\ x_2 & y_2 & z_2 \end{vmatrix} =$$

$$\langle y_1 z_2 - z_1 y_2, z_1 x_2 - x_1 z_2, x_1 y_2 - y_1 x_2 \rangle$$

$$\rightarrow \frac{d(\mathbf{r}_1 \times \mathbf{r}_2)}{dt} = \dot{\mathbf{r}}_1 \times \mathbf{r}_2 + \mathbf{r}_1 \times \dot{\mathbf{r}}_2$$