

Calc 3 – Ch13 Test – formula sheet

$$\vec{T}(t) = \frac{\vec{r}'(t)}{|\vec{r}'(t)|}$$

$$\vec{N}(t) = \frac{\vec{T}'(t)}{|\vec{T}'(t)|}$$

$$\vec{B}(t) = \vec{T}(t) \times \vec{N}(t)$$

$$\kappa(t) = \left| \frac{d\vec{T}}{ds} \right| = \frac{|\vec{T}'(t)|}{|\vec{r}'(t)|} = \frac{|\vec{r}'(t) \times \vec{r}''(t)|}{|\vec{r}'(t)|^3}$$

$$\rho = \frac{1}{\kappa}$$

$$\text{arc length } L = \int_a^b \left| \vec{r}'(t) \right| dt$$