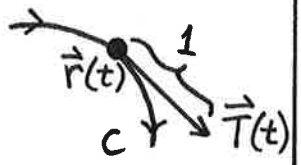
§6

If C is a curve parametrized by $\vec{r}:\mathbb{R}\to\mathbb{R}^n$, then $\vec{T}(t)$ is the unit vector in the direction of $\vec{r}\,'(t)$.

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



The curvature of the curve C at the point $\vec{r}(t)$ is

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

This equation is not to be used for homeworks or exams

Every point on a straight line has curvature 0.

Every point on a circle of radius $1/b$ has curvature b.

If $f'(a)=0$ for some $f:\mathbb{R}\to\mathbb{R}$, then the curvature of the graph $y=f(x)$ at the point $(a,f(a))$ is $|f''(a)|$.