

Problems:

- ① Curvature of a circle of radius 4?
- ② What is the curvature of $r(t) = \langle 2+3t, 7t, 5-t \rangle$

Use appropriate $K(t)$ eqn. to find curvature function:

a) $r(t) = \langle \cos t, \sin t, t^2 \rangle$

b) $\langle t^2, t^3 \rangle$

c) $f(x) = e^x$

③ Find $N(t)$ for $r(t) = \langle R \cos t, R \sin t, 0 \rangle$

④ Find T, N , & B for: $r(t) = \langle 0, t, t^2 \rangle$

Draw the vectors for $t=1$

⑤ Decompose $a(t)$ into a_T and a_N components:

a) $r(t) = \langle 4-t, t+1, t^2 \rangle$

b) $r(t) = \langle t, e^t, te^t \rangle$