Skalärprodukten på komponentform

$$\boldsymbol{a} \bullet \boldsymbol{b} =$$

$$(a_x\boldsymbol{e}_x + a_y\boldsymbol{e}_y + a_z\boldsymbol{e}_z) \bullet (b_x\boldsymbol{e}_x + b_y\boldsymbol{e}_y + b_z\boldsymbol{e}_z) =$$

$$\{\boldsymbol{e}_x \bullet \boldsymbol{e}_x = 1,\ \boldsymbol{e}_x \bullet \boldsymbol{e}_y = 0 \text{ etc}\} =$$

$$a_xb_x \cdot 1 + a_yb_y \cdot 1 + a_zb_z \cdot 1.$$

Vektorprodukten på komponentform

$$\boldsymbol{a} \times \boldsymbol{b} = \begin{vmatrix} \boldsymbol{e}_x & \boldsymbol{e}_y & \boldsymbol{e}_z \\ a_x & a_y & a_z \\ b_x & b_y & b_z \end{vmatrix} =$$

$$(a_yb_z - a_zb_y)\boldsymbol{e}_x + (a_zb_x - a_xb_z)\boldsymbol{e}_y + (a_xb_y - a_yb_x)\boldsymbol{e}_z =$$

$$(a_yb_z - a_zb_y, a_zb_x - a_xb_z, a_xb_y - a_yb_x)$$