

# Geometric Algebra

## Geometric Algebra

Geometric algebra is also known as *Clifford algebra*.

The *geometric product* of vectors  $\underline{a}$  and  $\underline{b}$  is defined as

$$\underline{a}\underline{b} = \underline{a} \cdot \underline{b} + \underline{a} \wedge \underline{b}$$

where

- $\underline{a} \cdot \underline{b}$  is the dot product of  $\underline{a}$  and  $\underline{b}$  ;
- $\underline{a} \wedge \underline{b}$  is the wedge product of  $\underline{a}$  and  $\underline{b}$  .

The geometric product is not commutative, since

$$\underline{b}\underline{a} = \underline{a} \cdot \underline{b} - \underline{a} \wedge \underline{b} .$$