

Linkerlid:

$$[A \times (B - C)]^2 = [(A \times B) - (A \times C)]^2 = (A \times B)^2 + (A \times C)^2 - 2(A \times B) \cdot (A \times C)$$

$$[B \times (C - A)]^2 = [(B \times C) - (B \times A)]^2 = (B \times C)^2 + (B \times A)^2 - 2(B \times C) \cdot (B \times A)$$

$$[C \times (A - B)]^2 = [(C \times A) - (C \times B)]^2 = (C \times A)^2 + (C \times B)^2 - 2(C \times A) \cdot (C \times B)$$

Met de eigenschap $(\mathbf{V} \times \mathbf{W})^2 = (\mathbf{W} \times \mathbf{V})^2$

Linkerlid:

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 - 2(A \times B) \cdot (A \times C) - 2(B \times C) \cdot (B \times A) - 2(C \times A) \cdot (C \times B)$$

De term $(B \times C + C \times A + A \times B)^2$ in het rechterlid kan worden geschreven als:

$$(B \times C)^2 + (C \times A)^2 + (A \times B)^2 + 2(B \times C) \cdot (C \times A) + 2(C \times A) \cdot (A \times B) + 2(B \times C) \cdot (A \times B)$$

Rechterlid:

$$(B \times C)^2 + (C \times A)^2 + (A \times B)^2 + (B \times C)^2 + (C \times A)^2 + (A \times B)^2 + 2(B \times C) \cdot (C \times A) + 2(C \times A) \cdot (A \times B) + 2(B \times C) \cdot (A \times B)$$

De identiteit wordt nu:

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 - 2(A \times B) \cdot (A \times C) - 2(B \times C) \cdot (B \times A) - 2(C \times A) \cdot (C \times B) =$$

$$(B \times C)^2 + (C \times A)^2 + (A \times B)^2 + (B \times C)^2 + (C \times A)^2 + (A \times B)^2 + 2(B \times C) \cdot (C \times A) + 2(C \times A) \cdot (A \times B) + 2(B \times C) \cdot (A \times B)$$

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 - 2(A \times B) \cdot (A \times C) - 2(B \times C) \cdot (B \times A) - 2(C \times A) \cdot (C \times B) =$$

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 + 2(C \times A) \cdot (A \times B) + 2(B \times C) \cdot (A \times B) + 2(B \times C) \cdot (C \times A)$$

Met de eigenschap $(\mathbf{V} \times \mathbf{W}) = -(\mathbf{W} \times \mathbf{V})$ volgt direct het resultaat:

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 - 2(A \times B) \cdot (A \times C) - 2(B \times C) \cdot (B \times A) - 2(C \times A) \cdot (C \times B) =$$

$$2(B \times C)^2 + 2(C \times A)^2 + 2(A \times B)^2 - 2(A \times B) \cdot (A \times C) - 2(B \times C) \cdot (B \times A) - 2(C \times A) \cdot (C \times B)$$