

Answer on Question #59689 – Math – Analytic Geometry

Question

A dot product is said to be distributive, if

- a) $m \cdot u = u \cdot m$;
- b) $m(u \cdot v) = v(m \cdot v)$;
- c) $u \cdot (v + w) = (u \cdot v + u \cdot w)$;
- d) $m = u$.

Solution

The distributivity of the dot product means that for any three vectors u, v, w hold the following equality:

$$u \cdot (v + w) = (u \cdot v + u \cdot w).$$

Therefore, the correct answer is c), that is,

$$u \cdot (v + w) = (u \cdot v + u \cdot w).$$

Answer: c) $u \cdot (v + w) = (u \cdot v + u \cdot w)$.