

**Answer on Question #56012 – Math – Analytical Geometry**

**Question**

Evaluate

$$(2j-j) \cdot (3i+k)$$

5

6

2

3

**Solution**

The Dot Product can be calculated in the following way:

If  $v = ai + bj + ck$  and  $w = di + ej + fk$

then

$$v \cdot w = ad + be + cf$$

In our case  $v = 0i+j+0k$  and  $w = 3i+0j+k$ .

$$\text{Then } v \cdot w = 0 \cdot 3 + 1 \cdot 0 + 0 \cdot 1 = 0$$

**Answer:  $(2j-j) \cdot (3i+k) = 0$**