

Study Unit 8

Activity 8-7

Consider the following vectors: $u = (1, 2, 5)$ and $v = (2, 3, 5)$. Determine the following:

(a) $u \cdot v = (1, 2, 5) \cdot (2, 3, 5) = 1 \cdot 2 + 2 \cdot 3 + 5 \cdot 5 = 2 + 6 + 25 = 33.$

(b) $v(2u) = (1, 2, 5) \cdot (2 \times (2, 3, 5)) = (1, 2, 5) \cdot (4, 6, 10) = 1 \cdot 4 + 2 \cdot 6 + 5 \cdot 10 = 4 + 12 + 50 = 66.$