9.3

$a = 2m - n$

$b = 2m + 3n$

$(2m - n)(2m + 3n) = 4m^2 + 6mn - 2mn - 3n^2 =$

$4m^2 + 4mn - 3n^2$

$1 + 4mn$

$B, n = 0$

$1 + 4 \cdot 0 = 1$

9.4

$|a| = 3$

$|b| = |c| = 2.$

$(3a + b)(2a - c) = 6a^2 - 3ac + 2ab - cb.$

$|\bar{a}| \times |\bar{b}| \cdot \cos\alpha = 3 \cdot 2 \cdot 0 = 0$

$|\bar{a}| \times |\bar{c}| \cos\frac{\pi}{3} = 3 \cdot 2 \cdot \frac{1}{2} = 3$

$|\bar{c}| \times |\bar{b}| \cdot \cos\frac{\pi}{3} = 2 \cdot 2 \cdot \frac{1}{2} = 2$

9.6

$a = 2i - 3j + k$

$b = -i + j$

$\bar{a} \cdot \bar{b} = 2 \cdot (-1) + 1 \cdot 3 + 1 + 1 \cdot 0 = -2 + (-3) = -5.$