1-4)

d)

From above:
$B_x = B \cos\theta_B = 15*\cos60^o = 7.5$ m
$B_y = B \sin\theta_B = 15*\sin60^o = 13$ m
$B_z = 0$ m

$C_x = C \cos\theta_C = 12*\cos205^o = -10.9$ m
$C_y = C \sin\theta_C = 12*\sin205^o = -5.1$ m
$C_z = 0$ m

$\mathbf{B} \cdot \mathbf{C} = B_xC_x + B_yC_y + B_zC_z = 7.5*(-10.9) + 13*(-5.1) + 0*0 = -81.8 + -66.3 =$ -148.1 m^2

Alternatively, we might have written that:

$\mathbf{B} \cdot \mathbf{C} = |\mathbf{B}|\,|\mathbf{C}| \cos\theta_{B,C} = 15*12*\cos(205^o - 60^o) =$ -147.4 m^2

These two results should be identical; they agree fairly well, considering the rounding off done in each case.