2) a) $a^2 + 2ab + ac + 2bc = a(a + 2b) + c(a + 2b) = (a + c)(a + 2b)$

Alternatively, combine the summands 1/3 and 2/4:
$a^2 + 2ab + ac + 2bc = a(a + c) + 2b(a + c) = (a + 2b)(a + c)$

b) $6y - 9 - 2xy + 3x = 3(2y - 3) - x(2y - 3) = (3 - x)(2y - 3)$

Alternatively, combine the summands 1/3 and 2/4:
$6y - 9 - 2xy + 3x = 2y(3 - x) - 3(3 - x) = (2y - 3)(3 - x)$