3.48

$Q(x) = (x+1)^3 + a(x+1)^2 + b(x+1) + 6 - 3x^2 - 2ax - b$

$Q(x) = x^3 + 3x^2 + 3x + 1 + ax^2 + 2ax + a + bx + b + 6 - 3x^2 - 2ax - b$

$Q(x) = x^3 + ax^2 + x(3+b) + 7 + a$

$Q(1) = 0 = 1 + a + 3 + b + 7 + a$

(*) $\quad 0 = 11 + 2a + b$

$R(x) = (x-1)^3 + a(x-1)^2 + b(x-1) + 6 + 3x^2 + 2ax + b$

$R(x) = x^3 - 3x^2 + 3x - 1 + ax^2 - 2ax + a + bx - b + 6 + 3x^2 + 2ax + b$

$R(x) = x^3 + a + x(3+b) + 5 + a$

$R(-1) = 0 = -1 + a - 3 - b + 5 + a$

(**) $\quad 0 = 1 + 2a - b$

$a = -3 \quad b = -5$: פתרון (**) ו (*) נ