3.74
52

$p(2) = 0 = 32 - 80 + 88 + 4a + 2b + c$

$\boxed{-40 = 4a + 2b + c}$

$p(1) = 9 = 1 - 5 + 11 + a + b + c$

$\boxed{+2 = a + b + c}$

$42 = -3a + b$

$p'(x) = 5x^4 - 20x^3 + 33x^2 + 2ax + b$

$p'(2) = 0 = 80 - 160 + 132 + 4a + b$

$-52 = 4a + b$
$42 = -3a - b$

$a = -10, \; b = -12, \; C = 24$