

3.37
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$$p(x) = x^5 - 5x^4 + 11x^3 + ax^2 + bx + c$$

$$p(1) = 0 = 1 - 5 + 11 + a + b + c$$

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

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

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

$$-7 = a + b + c$$

$$-40 = 4a + 2b + c$$

$$-52 = 4a + b$$

$$33 = -3a + b$$

$$-52 = 4a + b$$

$$a = -14$$

$$b = 24$$

$$c = -12$$