CORREZIONE VERIFICA 2 (fattorizzazione)

1) $x^2 - x - 110 = (x-11)(x+10)$

2) $2x^2 + 7x + 3 = 2x^2 + 6x + x + 3 = 2x(x+3) + (x+3) = (x+3)(2x+1)$

3) $4a^3 - 4a^2 - a + 1 = 4a^2(a-1) - (a-1) = (a-1)(4a^2-1) = (a-1)(2a+1)(2a-1)$

4) $a^4 - 5a^2 + 4 = (a^2-1)(a^2-4) = (a+1)(a-1)(a+2)(a-2)$

5) $a^4 - 81 = (a^2+9)(a^2-9) = (a^2+9)(a+3)(a-3)$

6)
$$x^9 + x^8 + 2x^5 + 2x^4 + x + 1 = x^8(x+1) + 2x^4(x+1) + (x+1) =$$
$$= (x+1)(x^8 + 2x^4 + 1) = (x+1)(x^4+1)^2$$

7) $x^4 - x^2 - 12x - 36 = x^4 - (x+6)^2 = (x^2+x+6)(x^2-x-6) = (x^2+x+6)(x+2)(x-3)$

8)
$$a^2 + b^2 + c^2 - d^2 - 2ab + 2ac - 2bc =$$
$$= (a-b+c)^2 - d^2 = (a-b+c+d)(a-b+c-d)$$

9) $8x^3 - 36x^2 + 54x - 27 = (2x-3)^3$

10) Col "metodo del completamento del quadrato":
$$4x^2 + 4x - 399 = 4x^2 + 4x + 1 - 400 = (2x+1)^2 - 400 =$$
$$= (2x+1+20)(2x+1-20) = (2x+21)(2x-19)$$