

Completely factor the following polynomials.

1. $x^2 + 5x + 6 = (x + 2)(x + 3)$

2. $3x^2 - x - 2 = (3x + 2)(x - 1)$

3. $x^2 - 100 = (x + 10)(x - 10)$

4. $36x^2 - 49 = (6x + 7)(6x - 7)$

5. $x^2 + 2x + 1 = (x + 1)^2$

$$6. 5x^2 - 5x - 30 = 5(x+2)(x-3)$$

$$7. x^3 - 4x = x(x+2)(x-2)$$

$$8. 3x^3 - 3x = 3x(x+1)(x-1)$$

$$9. x^3 + 2x^2 - 4x - 8 = (x+2)^2(x-2)$$

$$10. 20y^4 - 45y^2 = 5y^2(2y+3)(2y-3)$$