

Name _____
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Date _____
Algebra II

Proving Expressions are Equal

Prove the following expressions are equal

1. $4k^2 - 49 = (2k + 7)(2k - 7)$

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

2. $a^3 - 8b^3 = (a - 2b)(a^2 + 2ab + 4b^2)$

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

5. $-4(x^2 + x - 3) = 2x^2 - 2(3x^2 + 2x - 6)$

6. $3(x - 6)^2 - 1 = 3x^2 - 36x + 107$

$$7. (x+2)^2 + 2(x+2) - 8 = (x+6)x$$

$$8. m^5 + m^3 - 6m = m(m^2 + 3)(m^2 - 2)$$

$$9. t^3 + 5t^2 + 6t + t^2 + 5t + 6 = (t+1)(t+2)(t+3)$$

$$10. 2d(d+3)^2(d-3) = 2d^4 + 6d^3 - 18d^2 - 54d$$