Algebra 2 CC Name _____
Identities HW

1.) Mr. Farison gave his class the three mathematical rules shown below to either prove or disprove.

Which rules can be proved for all real numbers?

I. $(m+p)^2 = m^2 + 2mp + p^2$

II. $(x+y)^3 = x^3 + 3xy + y^3$

III. $(a^2+b^2)^2 = (a^2-b^2)^2 + (2ab)^2$

(a) I only (b) I and II (c) II and III (d) I and III

2.) Prove algebraically that $(x-3)(x+3)^2 = x^3 + 3x^2 - 9x - 27$

3.) Prove algebraically that $x(x+6)=(x+2)^2+2(x+2)-8$

4.) Prove algebraically that $x^3+3x^2-4xy^2-12y^2=(x-2y)(x+2y)(x+3)$