Algebra 1   Name_____

Complex Quadratic Equations Bonus

Date_____ Period_____

Solve each Quadratic Equation for both x's. Roots are the solutions.

1) EXAMPLE: $3x^2 + 12x - 34.5 = 28.5$ I know that I want the right-side to be zero.
            -28.5 -28.5   I subtract 28.5 from both sides to get a zero.
        $3x^2 + 12x - 63 = 0$ I have $3x^2$ but I want $1x^2$.]
           /3   /3   I divide it all by 3, even the zero.
        $x^2 + 4x - 21 = 0$ I now have a simple quadratic to factor.
        $(x + 7)(x - 3) = 0$ '-3' and '7' multiply to '-21' but add to '4.'
          x = -7 and x = 3   I convert the factors to roots.

2) $x^2 - 18x + 70 = -10$ 3) $x^2 + 17x + 85 = 13$

4) $2x^2 + 24x + 64 = 10$ 5) $3x^2 + 39x + 128 = 38$

6) $5x^2 + 15x - 120 = -30$ 7) $4x^2 - 24x + 64 = 28$

8) $6x^2 + 66x + 184 = 40$ 9) $7x^2 + 28x + 109 = 144$

10) $10x^2 - 150x + 600 = 40$ 11) $5x^2 - 20x - 24.25 = 0.75$