Algebra 2

3-02 Solve Quadratic Equations by Factoring (3.1)

Factoring Factoring is the opposite of _____ Factoring undoes _____ . $(x+2)(x+5) = x^2 + 7x + 10$ *x* + 2 called _____ x^2 + 7x + 10 called ____ Factor a Quadratic in the form of $ax^2 + bx + c$, 1. Factor out any ______ first, then factor what's left 2. Write two sets of ______ like ()(). 3. Guess: Find two expressions whose product is ______ and put them at the beginning of each set of parentheses. 4. Guess: Find two expressions whose product is ______ and put them at the end of each set of parentheses. Pay attention + and – signs. 5. Check: Calculate the ______ + _____ and compare it to the middle ______. a. If the outers + inners = *bx*, then the factoring is _____. b. If the outers + inners = -bx (the correct number but wrong sign), then change the signs in the parentheses. Otherwise, ______ with new guesses. Factor $x^2 - 3x - 18$ $n^2 - 3n + 9$ $r^2 + 2r - 63$ $14x^2 + 2x - 12$ $3x^2 - 18x$ $2x^2 - 32$

Zero Product Property

• If $a \cdot b = 0$, then either *a* or *b* is _____.

Solve a Quadratic Equation by Factoring

- 1. Make the quadratic expression equal _____.
- 2. _____ the quadratic expression.
- 3. Set each factor equal to ______ as two separate equations.
- 4. _____each equation.
- 5. _____your solutions

Solve

 $x^2-x-42=0$

 $9t^2 - 12t + 4 = 0$

 $3x - 6 = x^2 - 10$

95 #21, 23, 25, 27, 29, 30, 31, 36, 39, 41, 43, 45, 47, 59, 61, Mixed Review = 20