

3.1 Factoring Quadratics Graphic Organizer

Name: _____ Period: _____

2 Terms

GCF	Difference of Squares (DOS)	Sum of Squares (SOS)
<p>Rule: LOOK for common factors (until there are none left). GCF GOES IN FRONT!</p>	<p>Rule: $\underline{a^2} - \underline{b^2} = (a+b)(a-b)$ <small>Perfect square Perfect square</small></p>	<p>Rule(s): $a^2 + b^2 = (a+bi)(a-bi)$</p>
<p>Examples:</p> <p><u>Ex.1</u> $x^2 - 3x$ GCF: x $x(x-3)$</p> <p><u>Ex.2</u> $4x^2 - 28$ $\begin{array}{r l} x \cdot x & 1 \cdot 28 \\ 1 \cdot 4 & 2 \cdot 14 \\ \hline 2 \cdot 2 & 4 \cdot 7 \end{array}$ GCF: 4 $4(x^2 - 7)$</p> <p><u>Ex.3</u> $9x^2 + 27x$ $\begin{array}{r l} x \cdot x & 3 \cdot 9 \\ 1 \cdot 9 & 3 \cdot 3 \\ \hline 3 \cdot 3 & 3 \cdot 9 \end{array}$ GCF: 9x $9x(x+3)$</p>	<p>Examples:</p> <p><u>Ex.1</u> $4x^2 - 9$ $\sqrt{4x^2} \quad \sqrt{9}$ $a = 2x \quad b = 3$ $(2x+3)(2x-3)$</p> <p><u>Ex.2</u> $49x^2 - 25y^2$ $\sqrt{49x^2} \quad \sqrt{25y^2}$ $a = 7x \quad b = 5y$ $(7x+5y)(7x-5y)$</p> <p><u>Ex.3</u> $16x^2 - 1$ $\sqrt{16x^2} \quad \sqrt{1}$ $a = 4x \quad b = 1$ $(4x+1)(4x-1)$</p>	<p>Examples:</p> <p><u>Ex.1</u> $36x^2 + 25$ $\sqrt{36x^2} \quad \sqrt{25}$ $a = 6x \quad 5 = b$ $(6x+5i)(6x-5i)$</p> <p><u>Ex.2</u> $y^2 + 4$ $\sqrt{y^2} \quad \sqrt{4}$ $a = y \quad 2 = b$ $(y+2i)(y-2i)$</p> <p><u>Ex.3</u> $100x^2 + 9$ $(10x+3i)(10x-3i)$</p>