

Day 9 Hw: Factoring Quadratics

Directions: Factor each of the following polynomials. Don't forget to check for a GCF!

1.) $x^2 + x - 20$

$+1 \quad \begin{array}{r} \text{(-)} \\ *20 \\ \hline +5, -4 \end{array}$
 $(x+5)(x-4)$ ✓

5.) $10x^2 - 35x + 30$

$10x^2 - 20x - 15x + 30$
 $10x(x-2) - 15(x-2)$
 $(10x-15)(x-2)$

$\begin{array}{r} -35x \quad *300 \\ \hline -20 + -15 \quad \checkmark 2015 \end{array}$

2.) $4x^2 - 12x + 5$

$\begin{array}{r} +12 \quad *20 \\ \hline 10 \quad 2 \quad 10 \quad 2 \end{array}$
 $4x^2 - 10x - 2x + 5$
 $2x(2x-5) - 1(2x-5)$
 $(2x-1)(2x-5)$

6.) $12x^2 - 18x$

$6x(2x-3)$

3.) $3x^2 + 15x + 18$

$\begin{array}{r} +15 \quad *54 \\ \hline 69 \quad \checkmark \quad 69 \end{array}$
 $3x^2 + 6x + 9x + 18$
 $3x(x+2) + 9(x+2)$
 $(3x+9)(x+2)$

7.) $x^2 - 25$

$(x-5)(x+5)$

$\begin{array}{r} \text{(-)} \\ *25 \\ \hline 55 \\ \hline +0 \\ \hline -5 + 5 \end{array}$

4.) $2x^2 - 6x - 8$

$\begin{array}{r} + \quad \text{(-)} \\ -6 \quad *16 \\ \hline 8 \quad 2 \end{array}$
 $2x^2 - 8x + 2x - 8$
 $x(2x-8) + 1(2x-8)$

8.) $4x^2 - 16$

$\begin{array}{r} +0 \\ \hline -8 + 8 \end{array} \quad * -64$
 $4x^2 - 8x + 8x - 16$
 $4x(x-2) + 8(x-2)$
 $(4x+8)(x-2)$