Bellwork
11/28/2011

Use FOIL to find the product of the binomials.

1. $(t-5)(t+8)$

$$t^2 + 8t - 5t - 40 \qquad t^2 + 3t - 40$$

2. $(2d-1)(3d+2)$

$$6d^2 + 4d - 3d - 2 \qquad 6d^2 + d - 2$$

3. $(5+n)^2$

$$(5+n)(5+n)$$

$$25 + 5n + 5n + n^2 \qquad n^2 + 10n + 25$$

$$25 + 10n + n^2$$

6.1 Intro
Algebra Review

Remember...

Simplifying Radicals   **Ex.: $\sqrt{8}=2\sqrt{2}$**

- Do not use a calculator!
- Find the greatest perfect square factor.
- Move perfect square factors to the outside of the radical.
- If you're dividing, you need to rationalize the denominator!

Perfect Square Roots

$\sqrt{1}=1$	$\sqrt{49}=7$	$\sqrt{169}=13$
$\sqrt{4}=2$	$\sqrt{64}=8$	$\sqrt{196}=14$
$\sqrt{9}=3$	$\sqrt{81}=9$	$\sqrt{225}=15$
$\sqrt{16}=4$	$\sqrt{100}=10$	etc
$\sqrt{25}=5$	$\sqrt{121}=11$	
$\sqrt{36}=6$	$\sqrt{144}=12$	

Factoring Quadratics   **Ex.: $x^2+3x+2=(x+1)(x+2)$**

- Factor the first and last term.
- Write the answer as a product of the factors.
- Remember to check your answer!

Simplifying Radicals

Simplify the expression in radical form.

1. $\sqrt{54}$

$\sqrt{9 \cdot 6}$

$\sqrt{9} \cdot \sqrt{6}$

$3\sqrt{6}$

$\sqrt{10}$

2. $\sqrt{9+36}$

$\sqrt{45}$

$\sqrt{9 \cdot 5}$

$\sqrt{9} \cdot \sqrt{5}$

$3\sqrt{5}$

$5x - 4x$

$1x$

3. $\sqrt{50} - \sqrt{32}$

$\sqrt{25} \cdot \sqrt{2}$

$\sqrt{32}$

$\sqrt{16} \cdot \sqrt{2}$

$5\sqrt{2} - 4\sqrt{2}$

$\sqrt{2}$

Only w/ + or − between the radicals

4. $\sqrt{18} \cdot \sqrt{72}$

$\sqrt{9} \cdot \sqrt{2}$

$3\sqrt{2} \cdot 6\sqrt{2}$

$\sqrt{36} \cdot \sqrt{2}$ $3x \cdot 6x$

Only when multiply between the radicals

$18 \cdot 2$

36

5. $\dfrac{6}{\sqrt{2}} \cdot \dfrac{\sqrt{2}}{\sqrt{2}} = \dfrac{6\sqrt{2}}{2} = 3\sqrt{2}$

Factoring Quadratics

Factor the expression.

1. x^2+5x+6

$(x+2)(x+3)$

$2x+3x=5x$ ✓

$$\begin{array}{c|c} 6 \\ \hline 1 & 6 \\ 2 & 3 \end{array}$$

2. x^2-x-12

$(x+3)(x-4)$

$3x-4x=-x$ ✓

$$\begin{array}{c|c} 12 \\ \hline 1 & 12 \\ 2 & 6 \\ 3 & 4 \end{array}$$

3. $2x^2-5x+3$

$(2x-3)(x-1)$

$-3x-2x=-5x$ ✓

4. x^2-9

$(x+3)(x-3)$

$3x-3x=0$ ✓

$$\begin{array}{c|c} 9 \\ \hline 1 & 9 \\ 3 & 3 \end{array}$$

5. $5x^2+6x-8$

$(5x-4)(x+2)$

$-4x+10x=6x$ ✓

$$\begin{array}{c|c} 8 \\ \hline 1 & 8 \\ 2 & 4 \end{array}$$

Homework Assignment

Algebra Review Worksheet