

2/19 Algebra I - Downing

Bellwork: What can you multiply to get c and add to get b .

1. $b = -10$ $c = 16$

2. $b = 1$ $c = -20$

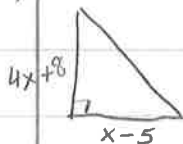
3. $b = 0$ $c = -100$

7.3 Special Products of Polynomials

You can multiply in any order

Write expression to represent area:

Ex) $A = \frac{1}{2}bh = \frac{1}{2}(x-5)(4x+8)$



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

*easier to take $\frac{1}{2}$ of second set of parenthesis

$$\begin{array}{c} 2 \cdot 3 \cdot 4 \\ \downarrow \downarrow \\ 6 \cdot 4 \\ = 24 \end{array}$$

$$\begin{array}{c} 2 \cdot 3 \cdot 4 \\ \downarrow \downarrow \\ 2 \cdot 12 \\ = 24 \end{array}$$

$$\begin{array}{c} 2 \cdot 3 \cdot 4 \\ \downarrow \downarrow \\ 8 \cdot 3 \\ = 24 \end{array}$$

$2x^2 + 4x - 10x - 20$

$2x^2 - 6x - 20$ Quadratic Trinomial $LC = 2$

1) Ex) $(5x+1)(\frac{1}{2}x-3)(4x+2)$

$(5x+1)(2x^2 + 1x - 12x - 6)$
 $(5x+1)(2x^2 - 11x - 6)$

or $5x$

	$2x^2$	$-11x$	-6
$10x^3$	$-55x^2$	$-30x$	
1	$2x^2$	$-11x$	-6

$10x^3 - 55x^2 - 30x + 2x^2 - 11x - 6$

$10x^3 - 53x^2 - 41x - 6$ Cubic Polynomial $LC = 10$

★ The square of a binomial ★

Ex) $(3x+4)^2 = (3x+4)(3x+4)$

$9x^2 + 12x + 12x + 16$

$9x^2 + 24x + 16$

Ex) $(2x-5)^2 = (2x-5)(2x-5)$

$4x^2 - 10x - 10x + 25$

$4x^2 - 20x + 25$

* Sum and Difference Pattern

$$(a+b)(a-b) = a^2 - \cancel{ab} + \cancel{ab} - b^2$$

$a^2 - b^2$ ← Difference of squares

Ex) $(3x-2)(3x+2)$

$$9x^2 + \cancel{6x} - \cancel{6x} - 4$$

$$9x^2 - 4$$

HW Quiz.

HW- Online p. 375 # 8-11, 13-18, 33-34