



MAT 0028 Bookmark

In the Learning Commons:

Face-to-face Assistance: The Learning Commons provides face-to-face assistance on Foundations math problems and study strategies.

Handouts: The Learning Commons offers handouts to help students understand important concepts in Foundations for College Math 2.

Hands-on items are available at the Learning Commons such as fraction activities.

Online:

The Learning Commons provides online tutoring through a service called Smarthinking. You can find the button to reach it in your canvas shell. This connects you to a live person via chat. You can upload pictures of problems or just type them in, and they will guide you through.

Order of Operations

Please	P	Parentheses and Grouping Symbols (inside first)
Excuse	E	Exponents
My Dear	M D	Multiplication or Division from left to right
Aunt Sally	A S	Addition or Subtraction from left to right

Math Translation Words

+ → Sum, increased by, addition, more than	x → Product, multiply, of
- → Difference, subtract, decreased by, less than	÷ → Divide, quotient
= → Equal, is	

*If $AB = 0$, then $A = 0$ or $B = 0$

*If $x^2 = k$, $k > 0$, then $x = \pm \sqrt{k}$



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Exponent Rules

$m^a m^b = m^{a+b}$	$(m^a n^c)^b = m^{ab} n^{bc}$
$\frac{m^a}{m^b} = m^{a-b}$	$m^{-a} = \frac{1}{m^a}$
$m^0 = 1$	$\sqrt[b]{m^a} = m^{\frac{a}{b}}$

Factoring Summary

GCF:	$3x^2 + 9x + 15 \rightarrow 3(x^2 + 3x + 5)$											
4 terms-grouping	$3x^3 + 2x^2 - 6x - 4 = (3x^3 + 2x^2) + (-6x - 4) = x^2(3x + 2) - 2(3x + 2) \rightarrow (3x + 2)(x^2 - 2)$											
a = 1	$x^2 + 4x - 12$: find factors of -12, add to 4, $\rightarrow (x - 2)(x + 6)$											
$x^2 - y^2$	$(x - y)(x + y)$											
$x^2 + y^2$	Does not factor/prime											
$ax^2 + bx + c$ $a \neq 1$	$3x^2 + 2x - 8$: factors of 3&8 that give difference of 2	$(3, 1)$ & $(1, 2, 4, 8)$ $4 \cdot 1 - 3 \cdot 2 = 4 - 6 = -2$ $3x^2 + 2x - 8 \rightarrow (3x - 4)(x + 2)$										
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	24											
1	24											
2	12											
3	8											
4	6											
Perfect squares	$p^2 \pm 2pq + q^2$: $4x^2 - 12x + 9 \rightarrow (2x - 3)^2$											

Factoring steps when solving quadratic:

1. Get the equation = 0
2. Factor out any common terms
3. Is it a difference of two squares?
4. Does it have 4 terms (grouping)
5. For a trinomial, use AC or trial/error.
6. Set all factors with a variable = 0 and solve.