Cornell Notes in the Math Classroom

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PCMI TLP 2017

Teacher Share

High School Cornell Notes Sample—Mathematics

Class Notes
If there was no class lecture this week, write a paragraph about what you learned and/or questions about what you didn't understand.

Topic: Algebra II
Multiplying Polynomials

Name: Student A

Class: Mathematics

Period: 1

Date: 11-10-05

Questions/Main Ideas:	Notes:
How does the "Foil" method apply to multiplying polynomials?	"FOIL" Method First Outer Inner Last $(x+6)(x+4)$ F O I L $x^2+4x+6x+24$ $x^2+10x+24$
What is the Linear Method?	Linear Method – $x+6$ $x+4$ $4x+24$ x^2+6x $x^2+10x+24$
Examples:	Difference of Squares – $+ab-ab$ $(a+b)(a-b) = a^2-b^2$

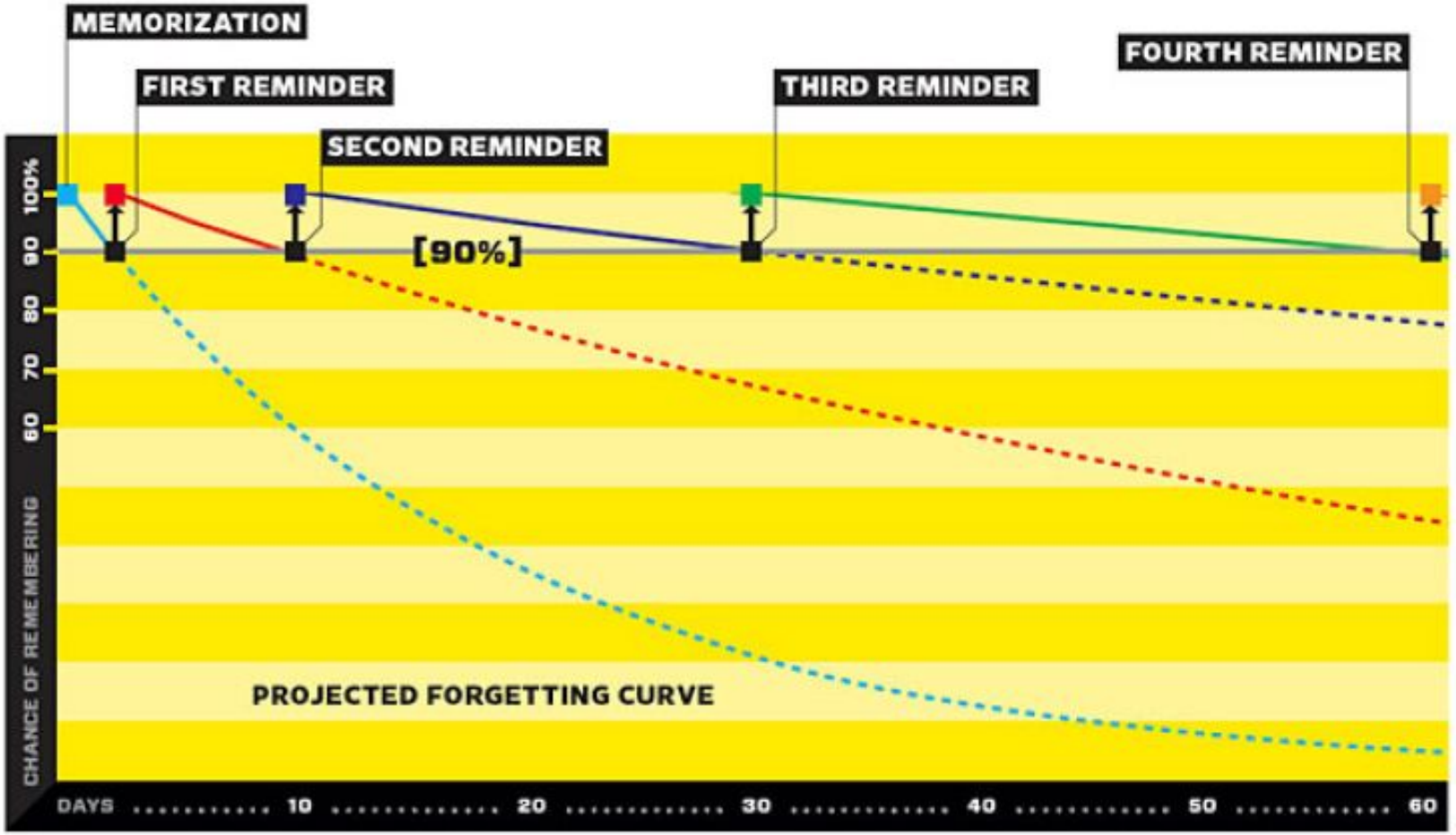
What is the Linear Method?	Linear Method –
	$x+6$
	$x+4$
	$4x+24$
	x^2+6x
	$x^2+10x+24$
Examples:	Difference of Squares –
	$+ab-ab$
	$(a+b)(a-b) = a^2-b^2$
	Example: $(2x+3)(x^2+4x-5)$
	$2x^3+8x^2-10x$
	$3x^2+12x-15$
	$2x^3+11x^2+2x-15$

Summary: Today I learned about Multiplying Polynomials. There are a several ways to multiply polynomials: using the Foil Method, the Linear Method, and finding the difference of Squares. The Foil Method is easier to understand now that I can remember what "FOIL" stands for: First, Outer, Inner, Last. If I follow that order, I will solve the equation correctly.

A Little History

- Walter Pauk, Cornell University, 1940s
- *How to Study in College*
- Designed to combat forgetting

Ebbinghaus' Forgetting Curve

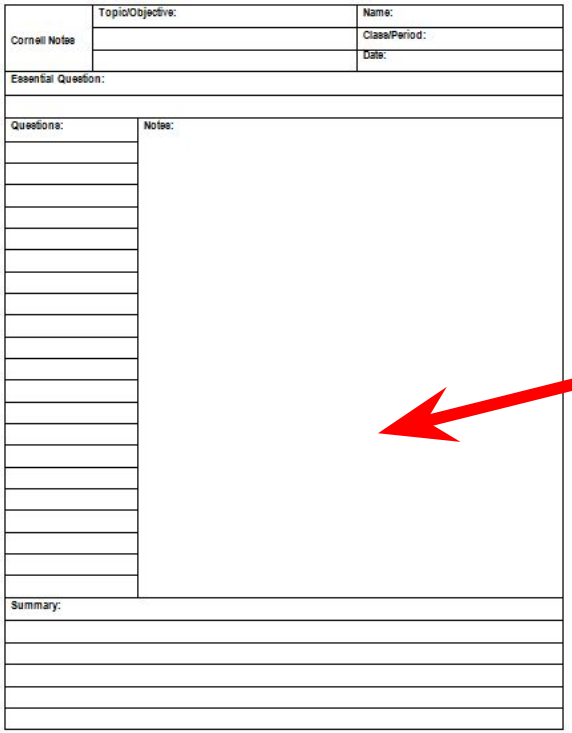


[1] http://www.memverse.com/images/supermemo_reminders.jpg

10-24-7 Rule

- 10 minutes
- 24 hours
- 7 days

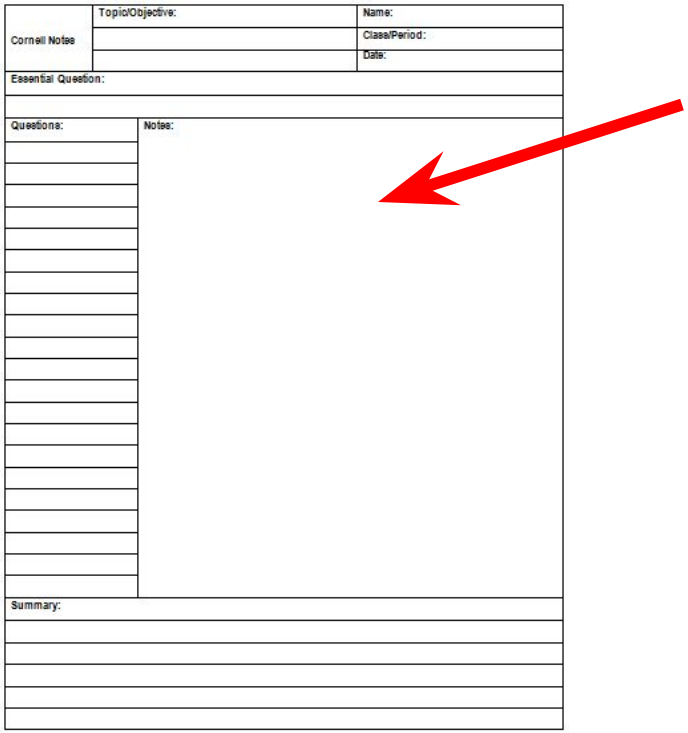
What does all of this mean for math class?



Cornell Notes	Topic/Objective:	Name:
		Class/Period:
		Date:
Essential Question:		
Questions:	Notes:	
Summary:		

Students take notes, do example problems, etc. in the notes section.

What does all of this mean for math class?



Cornell Notes	Topic/Objective:	Name:
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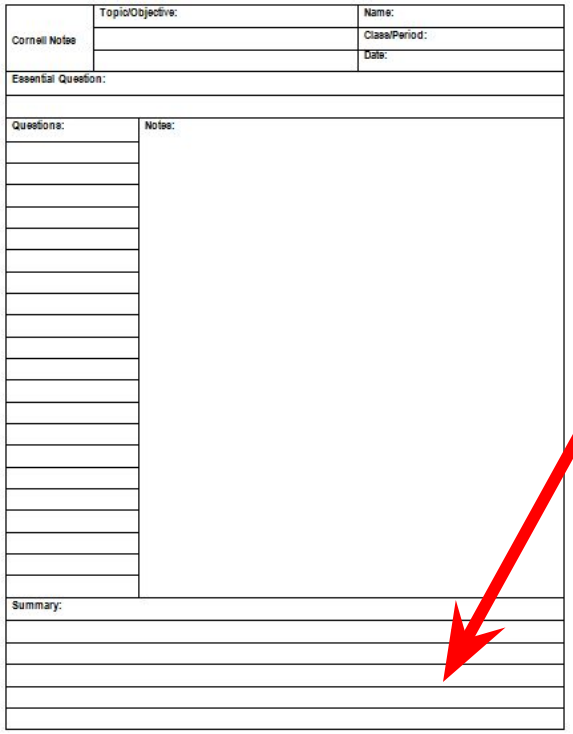
Summary:		

After **10 minutes** have students review their notes (preferably with a partner).

This is time to add missing information, clarify abbreviations, etc.

What does all of this mean for math class?



Cornell Notes	Topic/Objective:	Name:
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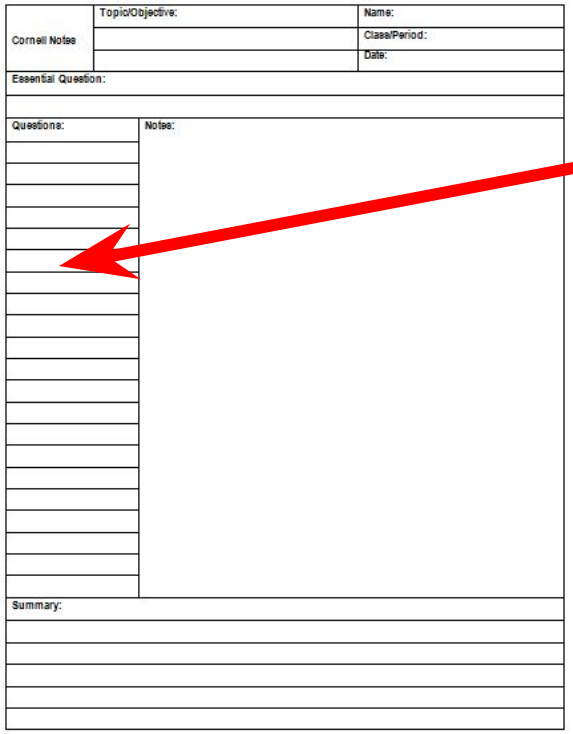
After about **24 hours**, have students summarize their notes.

This is time to capture key ideas, connections to other lessons, applications, etc.

What does all of this mean for math class?



After **7 days** students write questions that can be answered by their notes.

These can be basic recall, compare/contrast, analysis, etc.

Day 1

- Students fill out Objective and Essential Question.
- Students work through problem sets, find or create definitions, prove theorems, take notes, etc.
- Last 10 minutes of class students meet with others to revise notes.

Day 2

Students summarize the previous day's notes.

- Say-Do-Mean Summary
- 5 Word Summary

Day 7

Usually 1-2 days before assessment.

For homework, students write 2-3 questions per problem set.

- Level 1: Remembering or procedural understanding
- Level 2: Using understanding, examining, or creating
- Level 3: Deciding or using supportive evidence

Day 8

First 5-10 minutes of class: Round Robin

- Each student reads one question they wrote
- Others add it to their questions or revise their questions
- When everyone has shared one, anyone can add in other questions they thought were important

Variables and Expressions

8/28/13

LEARNING TARGET: I understand that variables represent numbers in mathematical expressions.

CONNECTIONS:

NOTES:

Variable - a symbol for a number whose value is not yet known
- usually a lower-case letter

expression - a mathematical phrase that contains numbers, variables and operations

Examples:

1) $2x$ → x is the variable
2) $b + 3$ → b is the variable

	Words	Expression
3)	seven more than n	$7 + n$
4)	difference of n and 7	$n - 7$
5)	product of n and 7	$7 \cdot n$ or $7n$ or $(7)(n)$
6)	quotient of n and 7	$n \div 7$ or $\frac{n}{7}$

SUMMARY: