Day 1

- Go over Sylabus
- Go over calander
  - Course entry quiz – 100% – first
  - Initial KC – locks every thing else out
  - C.A. pre assesment – in TC – 9-5 M-F – starts wednesday – due Aug 26
- Aleks is GB, ignore BB except attendance

Field Axioms

Aside: Group (a class on rubiks & uber, permutations) 'if a square, then braiding strands'

0) $a + 0 = a$
1) $(a+b)+c = a+(b+c)$ associativity
2) for all $a \in F$, there is $-a$ s.t. $a + -a = 0$ (∃ of additive inverses)
3) $a+b = b+a$ commutivity
4) $a \cdot b = b \cdot a$ " "
5) $(ab)c = a(bc)$ associativity of mult, Note $a \cdot b = ab = a \times b$
*6) $a(b+c) = ab + ac$ ~ distributive property
7) $a \cdot 1 = 1 \cdot a = a$

ring ($\mathbb{Z}/_{2\mathbb{Z}}$)

integral domain ($F[x]$, $\mathbb{Z}$) 9) if $ab = 0$ then either $a = 0$ or $b = 0$

Field ($\mathbb{Q}, \mathbb{R}, \mathbb{C}$, $\mathbb{R}(x)$) 10) for all $a \in F$, there is a^{-1} s.t. $aa^{-1} = 1 = a^{-1}a$

Aside: From an integral domain D we may create a field by looking at $\frac{a}{b}$, $a, b \in D$, with $\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$ and $\frac{a}{b} + \frac{c}{d} = \frac{ad+bc}{bd}$ then canceling common factors.

Aside: Ex) $\mathbb{Z} \to \mathbb{Q}$, $\frac{6}{9} = \frac{2}{3}$, $\mathbb{R}[X] \to \mathbb{R}(X)$, $\frac{2x+4}{(x+2)} = 2$

Order of operations

In USA (also we use infix)

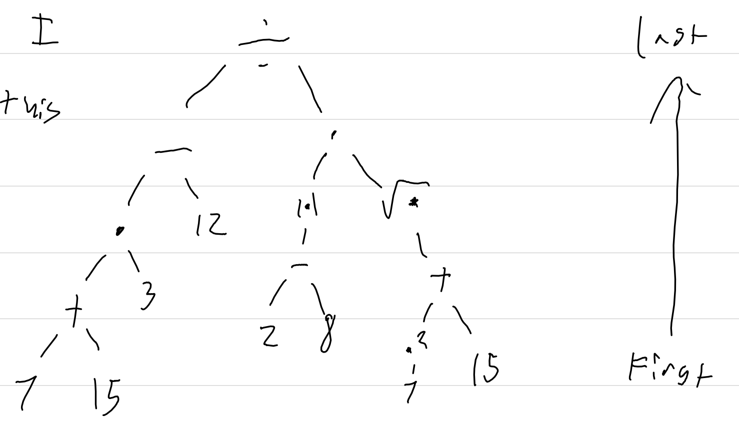
1. Parenthesis / absolute value
2. exponents
3. multiplication
4. division
5. addition
6. subtraction

Aside: polish uses prefix, ex $\times + 3\ 2\ 4 = (3+2) \times 4$

ex order ops) uses ops we will cover later

$$\frac{(7+15) \cdot 3 - 12}{|2-8| \cdot \sqrt{7^2+15}}$$

How I see this



- if Time switch to Exponents
  - make chart turing filled as go along

Review worksheet

A1 1 Basics

wk 1 wednesday

Ann - TC opens Thursday

Content: - Mid 1.2, thru 1.3
Exponents + Factoring

- do 1.2, then have together work through BB sheet
if time, move to 1.3

Review / preview:

- Alg expr w/o neg exponent -70% rem
  - $-3m^{-5} = \frac{-3}{m^5}$

- 1.1 eqn -70%
  - $|4w+6| = 2$

$4w+6=2$	$4w+6=-2$
$4w=-4$	$4w=-8$
$w=-1$	$w=-2$

- Translating sentences into eqn's -57%
  - Three more than the quotient of a number and 4 is equal to 7.

- exponents multiplication -43%
  - $2y^5u^7 \cdot 8u^5 \cdot 2y$

wk 1 Friday

Flow: Generally wiki on Friday, starting in module 3 through.

Sodns: - Quiz 1 due Sunday - requires { hw ≥ 90% / course content quiz + I.K.C.
- C.A. preassessment due 26th - in TC,

Ann: on BB, Check out Note repository, its where I'll post notes,

(P) Review:

① 1-1 eqn type 2 — 74% rem

$|2w+4| = 10$

② Sent → eqn — 61%

Six more than the product of a number and 8 becomes 9.

③ Simplify alg. expr'n — 38, 45, 45 %

$$\frac{45x^{-7}x^{5}}{(y^{-3}x^{4})^{-2}\cdot 5^{2}}$$

④ Intro to 1-1 eqn — 45 %

$-|v| = -8$

Content: Finish 1.2, do 1.3