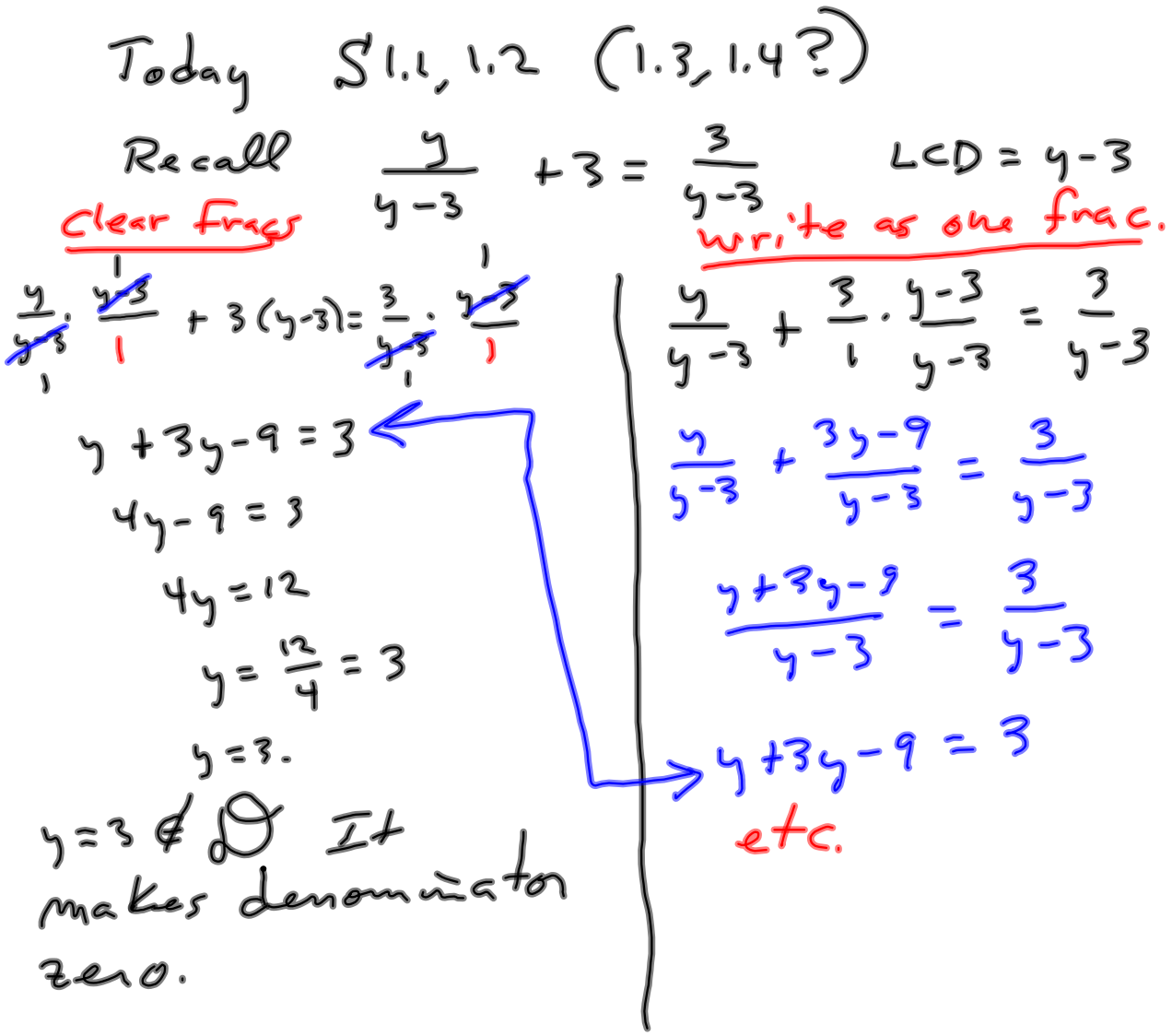
Made it a good way into 1.2, but still will have things to discuss from there on Friday



$$\frac{1}{w-2} - \frac{2}{3w-6} = \frac{1}{3w-6}$$

$3w-6 = 3(w-2)$

LCD: $3(w-2)$

$$\frac{1}{w-2}(3(w-2)) - \left(\frac{2}{3(w-2)}\right)(3(w-2)) = \frac{1}{3(w-2)} \cdot 3(w-2)$$

$$\frac{1}{w-2}(3(w-2)) - \left(\frac{2}{3(w-2)}\right)(3(w-2)) = \frac{1}{3(w-2)} \cdot 3(w-2)$$

$3-2 = 1$

$1 = 1$ Identity Always true for ANY w, except $w = 2$ ✗

Solution Set:

$\{w \mid w \neq 2\}$

The set of all w, such that $w \neq 2$.

Absolute Value

$|3| = 3$, $|-3| = 3 = -(-3)$, because $-3 < 0$.

$$|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$$

Solve for x:

$|x| = y \Rightarrow$

$x = y$ OR $x = -y$

TODAY

Coming soon:

$|x| > y \Rightarrow$

$x > y$ OR $x < -y$

$|x| < y \Rightarrow$

$x < y$ AND $x > -y$

$|3x+2| = 7$

$3x+2 = 7$ OR $3x+2 = -7$

$-2 = -2$

$3x = 5$

$3x = -9$

OK, optional

$\frac{3x}{3} = \frac{5}{3}$

$x = -\frac{9}{3}$

$x = \frac{5}{3}$ OR $x = -3$

$x \in \{-3, \frac{5}{3}\}$

STYLE

$3x+2 = 7$

$3x = 5$

$x = \frac{5}{3}$

} OK

$3x+2 = 7$

$\frac{3x}{3} = \frac{5}{3}$

} Not OK

Minimal steps highlighted

Beware combining two steps into one line.
It'll bite you in §1.7.

Aug 24-8:22 AM

$|3x+2| = 7$ Letting $x=0$ is a blind alley, here.

$|3(0)+2| = 7$

$|2| = 7$

$2 = 7$ Lies!

$3 + |5x-2| = 7$

So

$3 + 5x-2 = 7$ OR $3+5x-2 = -7$ No!

First, Isolate the absolute value..

Then do "the thing."

$3 + |5x-2| = 7$

$-3 \qquad = -3$

$|5x-2| = 4$

$5x-2 = 4$ OR $5x-2 = -4$

etc.

§1.2

$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

for R_2

Ohm's Law.

LCD: $RR_1R_2R_3$

$$\frac{1}{R}\cdot\frac{RR_1R_2R_3}{1} = \frac{1}{R_1}\cdot\frac{RR_1R_2R_3}{1} + \frac{1}{R_2}\cdot\frac{RR_1R_2R_3}{1} + \frac{1}{R_3}\cdot\frac{RR_1R_2R_3}{1}$$

$$R_1R_2R_3 = RR_2R_3 + RR_1R_3 + RR_1R_2$$

$$R_1R_2R_3 - RR_2R_3 - RR_1R_2 = RR_1R_3$$

$$R_2(R_1R_3 - RR_3 - RR_1) = RR_1R_3$$

A step I typically skip.

$$\frac{R_2(R_1R_3 - RR_3 - RR_1)}{R_1R_3 - RR_3 - RR_1} = \frac{RR_1R_3}{R_1R_3 - RR_3 - RR_1}$$

$$R_2 = \frac{RR_1R_3}{R_1R_3 - RR_3 - RR_1}$$

Amt of Pure = Amt of Pure

$ = $

Joe invested some money. His total return (interest [redacted]) was $5880

Part was invested @ 5% apr Numeracy

.. .. 6% ..

The amount invested @ 6% was $10000 more than the amount @ 5%.

How much was invested @ each rate?

Let x = amt invested @ 5% apr. ($)

y = ... 6% apr. ($)

x + y = 5880 Not quite.

y = x + 10000

Joe invested some money. His total return (interest & principal) was $5880

Combine the 2 equations

$.05x + .06y = 5880$

$.05x + .06[x + 10000] = 5880$