

**Postmodern
DeConstruction
in
Mathematics Education**

**DeConstructing
Fractions**

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Fractions IS hard

- or is it?

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Post-modernism:

skepticism towards hidden
patronization in traditions

Post-modernity:

I T society

I T: Information Technology

The Root of Fractions

|||||

|||| |||| |||

2 5s & 3 1s

2.3 5s or 2 3/5 5s

how many ?

the Total is !

T = ||||

**T = IIII = 4
= four ones
= one fours**

I	II	III	IIII	IIII	IIII	IIII	IIII	IIII
I	L	4	4	5	6	9	8	9
1	2	3	4	5	6	7	8	9

Counting in 5s:

1, 2, 3, 4, B, 1B1, 1B2

1, 2, 3, 4, 10, 11, 12

T = | | | | | |
= | | | | | |
= |) | |)
= 1)2)
= 1.2 4s

T = 7 1s

= 1.2 5s

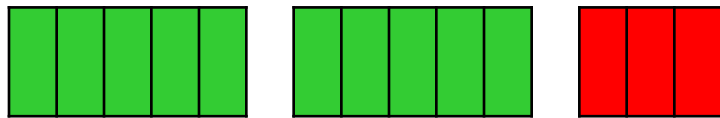
= 1.3 4s

= 2.1 3s

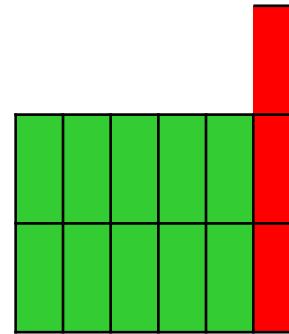
= 3.1 2s

= 0.7 tens = 7

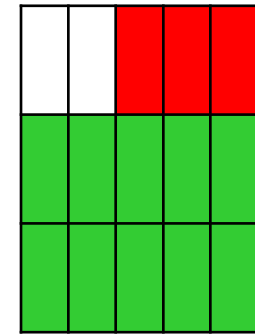
Decimals or Fractions



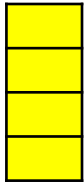
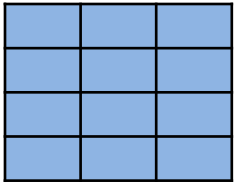
2 5s & 3 1s =



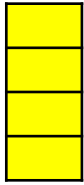
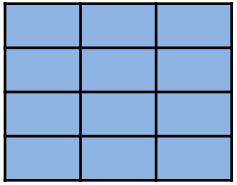
2.3 5s =



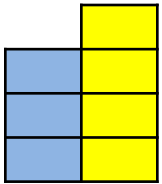
2 3/5 5s



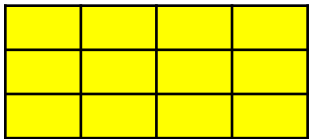
$$-4$$



$$/4$$



$$3 + 4$$



$$3 \times 4$$

ReCount formula

$$\begin{aligned}T &= 8 = (8/4)^*4 \\ &= 2^*4 \\ &= 2\ 4s\end{aligned}$$

$$T = (T/b)^*b$$

$$T = 4 \quad 5s = ? \quad 6s$$

$$\begin{aligned} T &= \text{|||||} \quad \text{|||||} \quad \text{|||||} \quad \text{|||||} \\ &= \text{||||||||||||||||} \\ &= \text{|||||} \quad \text{|||||} \quad \text{|||||} \quad \text{||} \end{aligned}$$

$$T = 4 \quad 5s = 3.2 \quad 6s$$

Rebundle: $T = (T/b)^*b$

Restack: $T = (T-b)+b$

Which is most correct?

$$2+3 = 5$$

or

$$2*3 = 6$$

The fraction paradox

Teacher:	Students:
What is $1/2+2/3$?	$1/2+2/3 = (1+2)/(2+3) = 3/5$
No. The correct answer is $1/2 + 2/3 = 3/6 + 4/6 = 7/6$	But $1/2$ of 2 cokes + $2/3$ of 3 cokes is $3/5$ of 5 cokes! How can it be 7 cokes out of 6?

How about $2/3$ of 15?

We just recount 15 1s in 3s:

$$\begin{aligned} T &= (15/3) 3s \\ &= 5 3s. \end{aligned}$$

$$\begin{aligned} \text{So } 2/3 \text{ of } 15 \\ &= 2/3 \text{ of } 3 \text{ } 5 \text{ times} \\ &= 2 * 5 = 10 \end{aligned}$$

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**DeConstructing
PreCalculus**

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