

Warm Up

SOLVE FOR x :

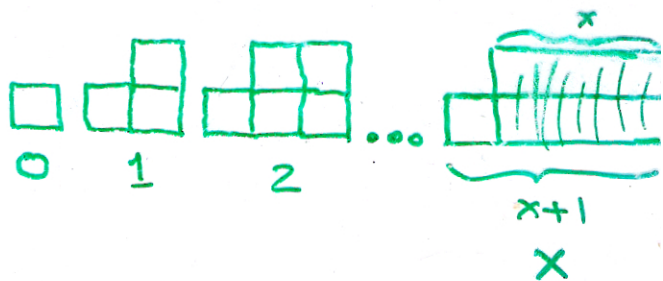
$$2x + 1 = 65$$

WHAT IS A VARIABLE?

X AS ANY NUMBER
IN A FUNCTION

$y = -3x + 5$ TRANSLATES
INTO → ENGLISH
→ T-TABLE

X AS A DIMENSION
OF A "PILE PATTERN"



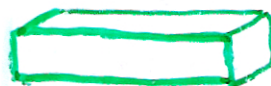
X AS A WAY TO
SUMMARIZE/GENERALIZE
IN A GUESS/CHECK CHART

RUTH	PHIL	SUSAN	= 100?
10	20	30	TOO LOW
15	25	40	TOO LOW
X	X+10	X+(X+10)	X + X+10 + X+(X+10) = 100

X AS A MANIPULATIVE
THAT CAN BE
COMBINED (+, -)

MADE INTO RECTANGLES
(X, FACTORING)

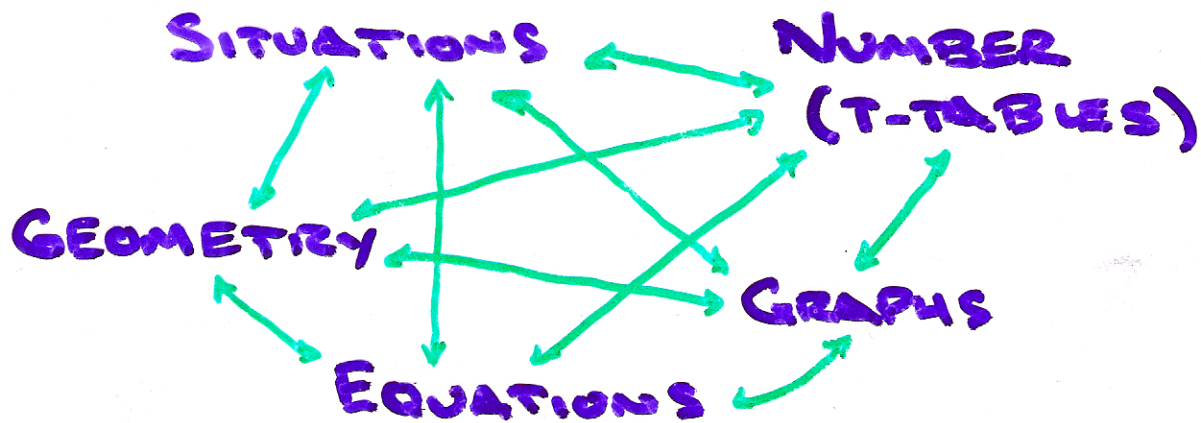
BALANCED OR COMPARED
(=, <, >)



$$2x + 1 = 65$$

THEMES FOR CRAFTING CURRICULUM :

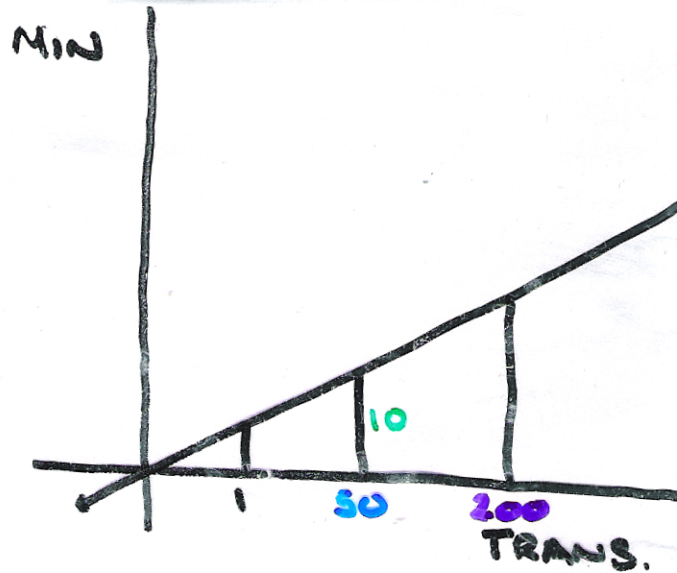
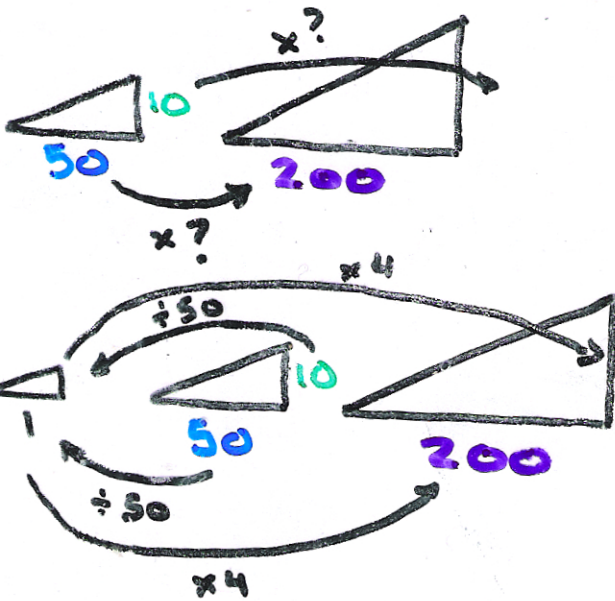
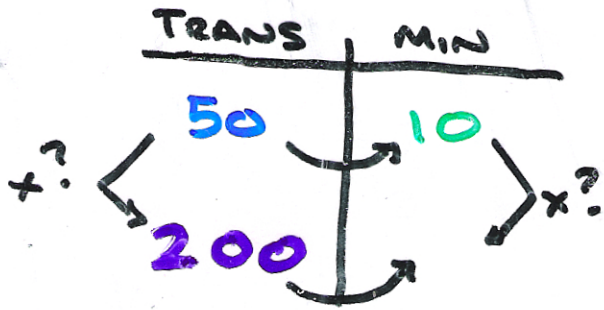
• MULTIPLE REPRESENTATIONS



- CONNECTIONS
- APPLICATIONS
- REVERSABILITY
- GENERALIZATION

PROPORTIONAL REASONING

HANNAH CAN CLEAN 50 TRANSPARENCIES IN A 10-MINUTE DETENTION. HOW LONG WOULD IT TAKE HER TO CLEAN ALL 200 OF MR C'S TRANSPARENCIES?



$$\frac{10}{50} = \frac{x?}{200}$$

Annotations: $\times ?$ (from 10 to x?), $\times ?$ (from 50 to 200)

or

$$\frac{10}{50} = \frac{1}{1} = \frac{x?}{200}$$

Annotations: $\div 50$ (from 10 to 1), $\times 200$ (from 1 to x?), $\div 50$ (from 50 to 1), $\times 200$ (from 1 to 200)