

MathFLIX CHALLENGE

Mathematical Modeling: Parts-to-Whole - What's the Number?

After lunch at *Great America*, Jack, Lila and Emma decided to try their luck at a game booth called:

WIN GIANT STUFFED TOY AT THE MYSTERY NUMBER BOOTH

- The Rules at the Booth:**
- \$1.00 / clue
 - Each time you guess the correct number, you win a stuffed toy
 - If you win, you can keep your toy or buy another clue to get a toy that is twice the size of the toy you just won.

The students decided to act as a team. Each used his/her own problem solving strategy. Study the patterns to complete this table.

#	Size of Toy	Clue	Model (Lila's solution)	Proportion (Jack's solution)	Algebra (Emma's solution)
1	1cm	1/2 of a number is 50. What is the number?		$\frac{1}{2} = \frac{50}{x}$	$\frac{1}{2}x = 50$
2	2cm	2/3 of a number is 20. What is the number?		$\frac{1}{3} = \frac{20}{x}$	$\frac{1}{3}x = 20$
3	4cm	1/3 of a number is 20. What is the number?			
4	8cm	3/3 of a number is 20. What is the number?			
5		1/4 of a number is 20. What is the number?			
6		3/4 of a number is 90. What is the number?			
7		2/5 of a number is 45. What is the number?			
8		5/6 of a number is 42. What is the number?			