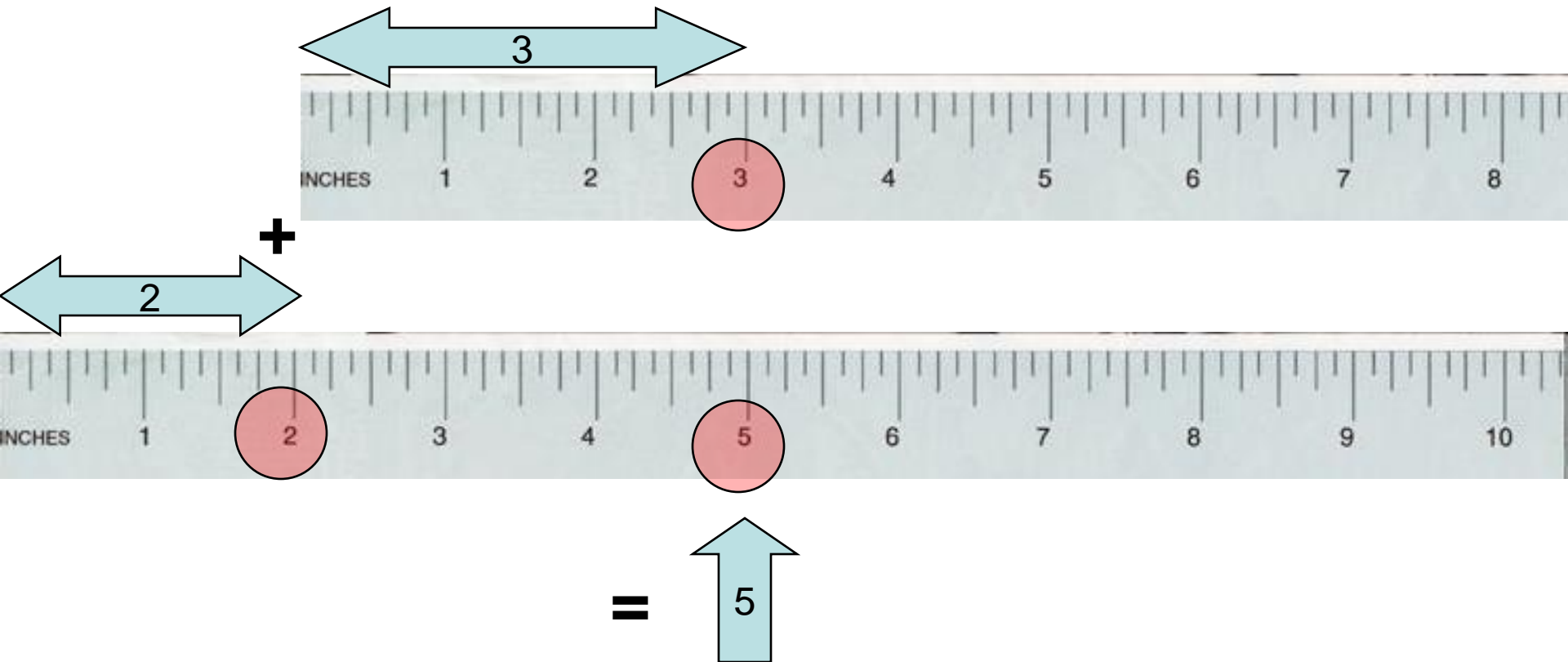# Math Manipulative for High Schoolers?

- Teaching new concepts using a new notation (logarithms)
- Managing complexity by reducing concepts to a familiar form
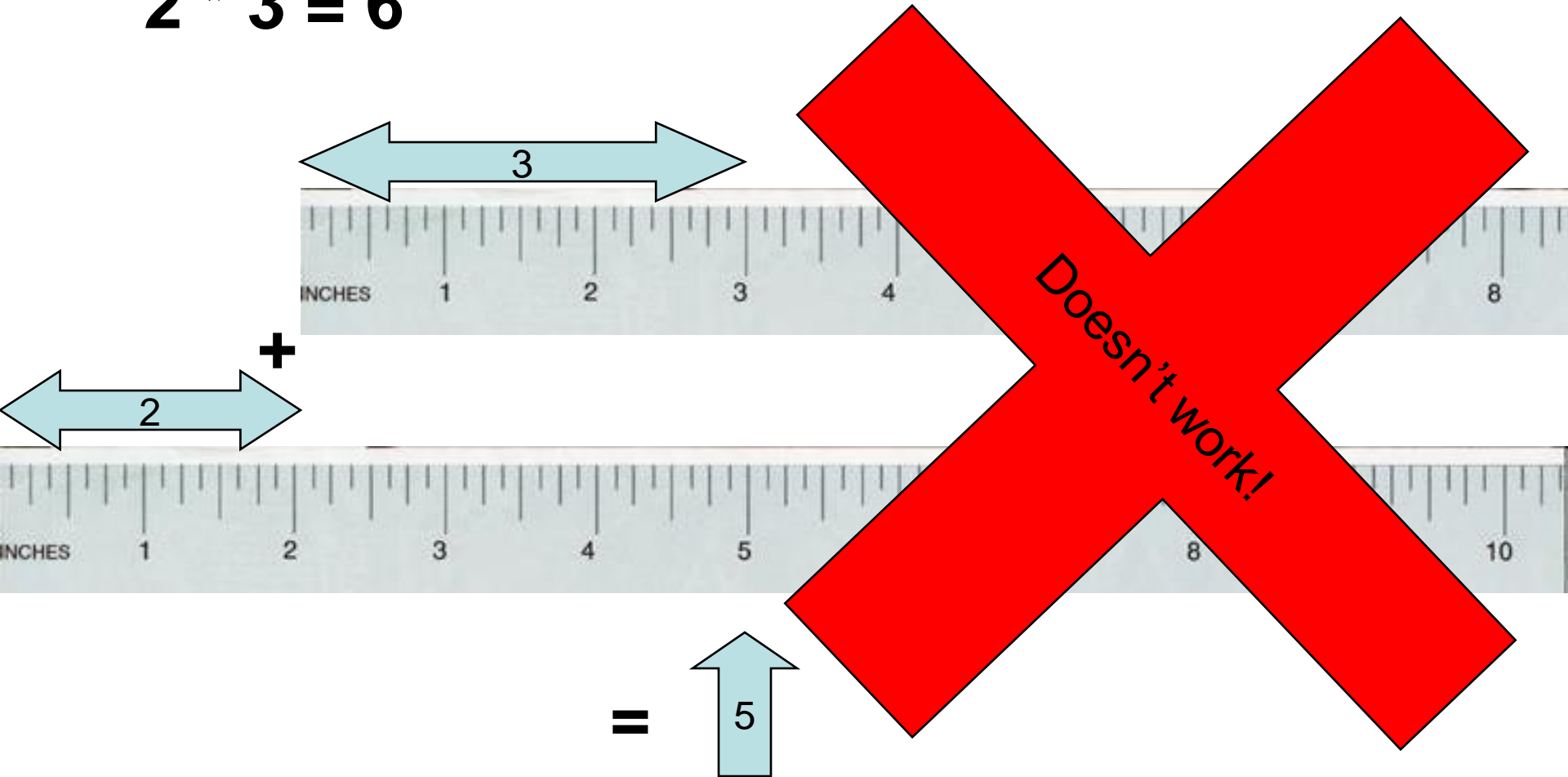
Addition (no sweat)

2 + 3 = 5

Multiplication (ok)

2 * 3 = 6

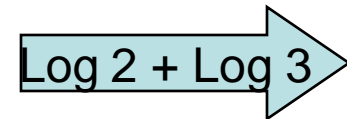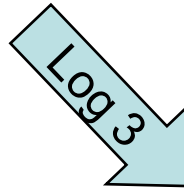# Logarithms (oh no!)

New type of rulers

New notation

Logarithms (Easy!)

2 * 3 = 6

$$10^0 = 1 \qquad 10^1 = 10$$

$2 = 10^{0.301} \qquad 3 = 10^{0.477}$

Log 2

Log 3

Log 2 + Log 3
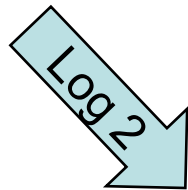
$2 * 3 = 10^{0.301} * 10^{0.477} = 10^{0.301 + 0.477} =$
$= 10^{0.778} = 6$

Adding (no sweat!)

2 * 3 = 6

Multiplying by adding