

Test Every Displayed Pair

Reteach one failed pair refutes one proposed multiplier

To test a proposed $y = k \times x$ rule, compare it with every displayed pair. For (1, 5), (2, 10), (3, 16), $k = 5$ fits the first two pairs, but $5 \times 3 = 15$, not 16. No single constant fits the whole displayed set. Do not change a recorded value merely to make a rule fit.

Your different practice

Input x	Output y	$y \div x$ for x greater than zero
1	2	
2	4	
4	10	

A fictional learner says, “The first pair gives $k = 2$, and the second agrees, so $y = 2 \times x$ fits the whole table.” Complete all three quotients, test the proposed rule at $x = 4$ and explain the conclusion. What remains unknown about an unshown input $x = 3$ if no rule is supplied?

Counterexample and limit