Algebra 1-7: Writing Patterns

Warm-Up- None, Double Lesson

Ex| $2x > x$

Vocabulary	Definition	Example
Instance	an example that works	$x=1$ $2 \cdot 1 > 1$ yes!
Counterexample	an example that doesn't work	$x=-2$ $2(-1) > -1$ Nope!
Pattern	generalization using variables	$\frac{x}{y} < xy$

$\frac{5}{3} < 5 \cdot 3$

Example Problems

1. One salad cost \$1.75 and one bottle of juice costs \$1.25.

   a) Write the pattern for finding the total cost of s salads and b bottles of juice.

   $1.75s + 1.25b$

   b) Find a formula for T, the total costs of s salads and b bottles of juice.

   $T = 1.75s + 1.25b$

2. Consider these instances.

a) Describe the pattern using variables. $x \cdot y > \frac{x}{y}$

4•2 > (4/2)

35•7 > (35/7)

.15•3 > (.15/3)

.75•8 > (.75/8)

$x = -2 \quad y = 3$

b) Is this pattern true for all numbers? If not, find a counterexample.

Nope

$xy > \frac{x}{y}$

$(-2)(3) > \frac{-2}{3}$

$-6 > -\frac{2}{3}$

False