PERCENTAGES PART 3 OF 8 · AGES 11–16

Percentage Increase and Decrease

Change any amount by a percentage in one calculation. Follow a bike priced 240 as it goes up and down by 15%.

1

Start at 100%

The original amount is always 100%. Here a bike costs 240, and its price is going to rise by 15% or fall by 15%.

2

Add or take away the change

A rise of 15% leaves you with 100% + 15% = 115% of the original. A fall of 15% leaves 100% − 15% = 85%.

3

Turn it into a multiplier

Divide by 100: 115% becomes 1.15 and 85% becomes 0.85. This one number, the multiplier, does the whole change.

4

Multiply the original

Increase: 240 × 1.15 = 276. Decrease: 240 × 0.85 = 204. One calculation each, with no separate adding or subtracting.

5

Check the direction

A multiplier above 1 makes an amount bigger and one below 1 makes it smaller. 276 is more than 240 and 204 is less, so both make sense.

6

Or: find the change, then add or subtract

15% of 240 is 24 + 12 = 36. Then 240 + 36 = 276 and 240 − 36 = 204: the same answers, in two steps instead of one.

Watch the zeros

An increase of 5% is × 1.05, not × 1.5 (that is a 50% increase). A decrease of 3% is × 0.97, not × 0.7 (that is a 30% decrease).

NEXT IN THE SERIES

4. Percentage Change and Reverse Percentages: The Rules

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