

Percent of What?

Percentage increase and decrease — and why up 20% then down 20% does not bring you back.

THE TWO-COLUMN LEDGER — ₱100, UP 20%, THEN DOWN 20%

UP 20%

20% of **₱100** = ₱20

₱100 + ₱20 =

₱120

DOWN 20%

20% of **₱120** = ₱24

₱120 – ₱24 =

₱96

₱20

SAME 20% · DIFFERENT BASE

₱24

A percentage is always a percentage of something.

Change the something, and you change the amount.

BUILD ANY PERCENTAGE FROM THESE TWO

10%

move the digits one place

1%

move them two places

5%

half of 10%

20%

double 10%

15%

10% + 5%

25%

a quarter — halve, halve

12%

10% + 1% + 1%

35%

10%×3 + 5%

Worked: 12% of ₱250 → 10% is ₱25, 1% is ₱2.50, so 12% is 25 + 2.50 + 2.50 = ₱30. No formula, no calculator.

THE MULTIPLIER — ONE STEP INSTEAD OF TWO

CHANGE	INCREASE ×	DECREASE ×
5%	1.05	0.95
10%	1.10	0.90
12%	1.12	0.88
15%	1.15	0.85
20%	1.20	0.80
25%	1.25	0.75
35%	1.35	0.65
50%	1.50	0.50

+p% is $\times (1 + p/100)$. -p% is $\times (1 - p/100)$. And Day 1 in one line: $1.20 \times 0.80 = 0.96$.

DISCOUNTS DO NOT ADD

~~50% off then 20% off = 70% off~~
= **60% off**

$0.50 \times 0.80 = 0.40$, so you pay 40% and save 60%. The second 20% is taken of the sale price, not the original.

₱1 000 → ₱500 → ₱400.

Percent of what? Change the **what**, and you change the amount.