



Decimal arithmetic

Align places to add. Count places to multiply.

- Today: two different rules, and using the wrong one.

Adding: $3.5 + 0.42$

- Line up the ENDS: $35 + 42 = 77$.
- Line up the PLACES: $3.50 + 0.42$.

3.92. And 3.5 IS 3.50.

Why ends ever worked

- In whole numbers the last digit IS the ones.
- So right-aligning lined up the places by accident.

The rule was always: align the places.

Subtracting: $5 - 2.36$

- “Nothing to take the 6 from.”
- 5 is 5.00. The zeros are there.

500 hundredths – 236 hundredths = 264.

Multiplying is DIFFERENT

- 0.3×0.4 . Do NOT line up the point.
- $3 \times 4 = 12$. Two places in, two places out.

0.12. Lining up the point gives 1.2 — ten times too big.

And it got smaller

- 0.12 is less than 0.3. And less than 0.4.

Multiplying by less than 1 makes things smaller.

Dividing: how many fit?

- $6 \div 0.2$ — how many 0.2s fit in 6?
- 30 of them.

The answer is BIGGER than 6. That is correct.

Your turn

- $12.4 + 3.75$. Then $4.2 - 1.75$. Then 1.5×0.6 . Then $7.2 \div 0.8$.
- Before each one: roughly how big should the answer be?

Which rule does this question need?