Proportion and best buys: flowchart

Planner week 11 · Direct or inverse? Follow the arrows

A proportion question

When one amount goes up, does the other go up or down?
say it in a sentence: more people → more food

Up | Up | Down

DIRECT: scale factor

16 flapjacks need 120 g butter. Jenny makes 24.

1. More flapjacks → more butter: direct
2. Scale factor: 24 ÷ 16 = 1.5
3. 120 g × 1.5 = **180 g**

✓ multiply every amount by 1.5

DIRECT: find one first

6 tins of beans cost £3.60. Find the cost of 15 tins.

1. Find one: £3.60 ÷ 6 = £0.60
2. × 15: £0.60 × 15 = **£9.00**

✓ more tins → more money

INVERSE: one goes down

5 pumps fill a tank in 14 hours. How long for 4 pumps?

1. Fewer pumps → more time: inverse
2. Total: 5 × 14 = 70 pump-hours
3. 70 ÷ 4 = **17.5 hours**

✓ the answer is longer

Are you comparing two deals?
a best buy

No → **Sense check**
bigger or smaller?

Yes

Find the price for one: 4 for £1.80 → 180p ÷ 4 = 45p each · 6 for £2.40 → 240p ÷ 6 = 40p each
The lowest price for one wins: **6 for £2.40**

The big question

When one amount goes **up**, does the other go **up** (direct) or **down** (inverse)?

more biscuits → more flour: direct
more workers → less time: inverse

Watch out

- Adding instead of multiplying (16 → 24 is not + 8).
- Using direct proportion for pumps (14 × 4 ÷ 5).
- Best buys: compare the same thing, per 1 or per £1.
- Offers: work out what you actually pay first.