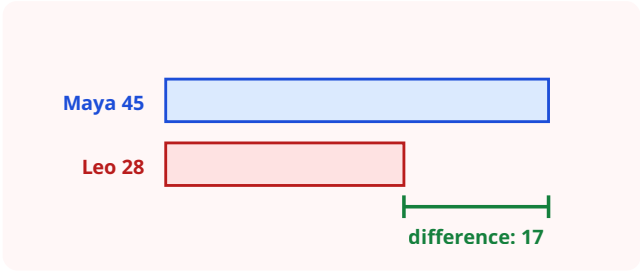
FIBO · CHEAT SHEET

Multi-Step Word Problems

Unit 4 · Ratios, Proportions & Chance — the whole lesson on one page. Keep it in your binder.

🖼️ Key picture



Comparison bars make "how many more" visible: 45 − 28 = 17. If you can draw the bars and label them, the operations choose themselves.

📌 Key points

- Attack plan: **Understand** → **Plan** → **Solve** → **Check**
- "For every" → ratio · same rate/scale → proportion · off/of/tax/tip → percent
- Scaling a ratio: **multiply both sides** — never add
- Splitting a total by a:b — total parts (a + b), one part = total ÷ parts
- Chained percents: **multiply** — each percent uses the *current* price
- Bar models: draw first, let the picture pick the operations
- Check step: answer the *whole* question + sanity-check the size

💡 **One-line pointer:** worked examples, application problems, and blank workspaces live in the companion **word-problems-lecture.pdf**.