

## Adding and subtracting mixed numbers

### WHAT THIS LESSON TEACHES

A mixed number combines a whole number and a fraction, such as  $2\frac{1}{2}$ . Add or subtract by handling wholes and fractions separately, carrying or borrowing when fractions exceed 1 or go negative.

→  $2\frac{1}{2} + 1\frac{1}{4}$  makes  $3\frac{3}{4}$

→  $3\frac{3}{4} - 1\frac{1}{2}$  makes  $2\frac{1}{4}$

### MODEL THIS ON THE BOARD

#### ADDING ON THE NUMBER LINE

- 1 Start at  $2\frac{1}{4}$  and add the whole 1 to reach  $3\frac{1}{4}$
- 2 Add the fraction  $\frac{1}{2}$  to land at  $3\frac{3}{4}$

### ANSWER KEY

**Scaffold:** visual check on the page

**Q1:**  $3\frac{3}{4}$  litres

**Q2:**  $3\frac{3}{4}$  cups

**Q3:**  $2\frac{1}{4}$  metres

**Q4:**  $4\frac{1}{4}$  kg

**Q5:**  $2\frac{1}{3}$  cups

a) **Always** — The wholes and fractions both increase the total.

b) **Sometimes** — Borrowing happens only when the top fraction is smaller than the bottom one.

c) **Never** — They can add to more than one, requiring a carry over.

d) **Never** — Borrowing can reduce the whole number by one.

### EXTENSION SHEET · STRETCH ANSWERS

**S1:**  $2\frac{5}{16}$

**S2:**  $27/20$

**S3:**  $7\frac{2}{5}$

**S4:** 3

**S5:**  $17/30$