# 1.2.1 Fractions

Name: _____ Class: _____ Date: _____

**KEY WORDS** improper fraction

<!– Session 2 native-skill companion –>

## Objective

Practise fractions within the labelled native lessons. Public original tasks; locally authored answer guidance.

## 1 Key knowledge and worked examples

### ■ Exact fractions and mixed-number operations · Foundation

Convert mixed numbers to improper fractions. Add or subtract using a common denominator; multiply numerators and denominators; divide by a nonzero fraction by multiplying its reciprocal. Cancel common factors, not added terms. These rules also apply to negative fractions.

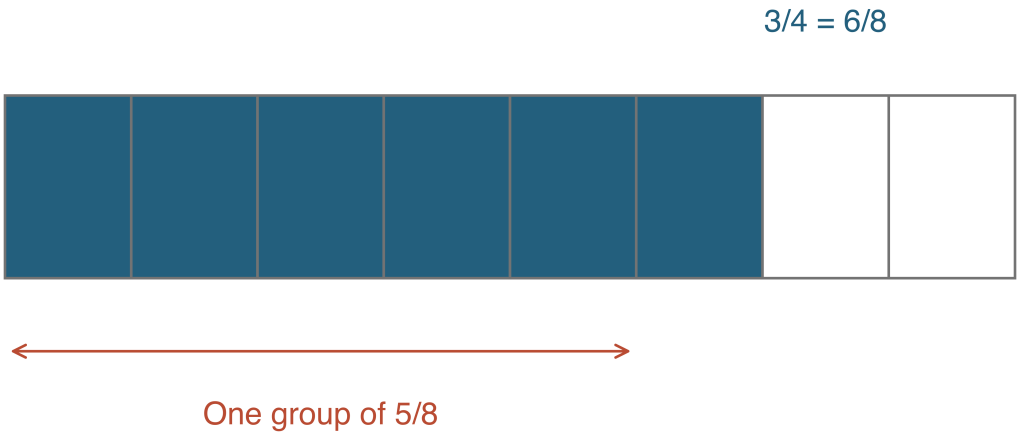
$$\frac{3}{4} \div \frac{5}{8} = \frac{3}{4} \times \frac{8}{5} = \frac{6}{5}$$

1½-¾=6/4-3/4=3/4. Also (-2/3)×(9/4)=-18/12=-3/2 and (3/4)÷(5/8)=(3/4)×(8/5)=6/5. A common denominator gives 5/6+3/4=10/12+9/12=19/12. Check division by multiplying 6/5 by 5/8 to recover 3/4. Exact multiples of $\pi$ follow ordinary arithmetic: $3\pi+2\pi=5\pi$ and $6\pi/3=2\pi$. Leave an answer such as $5\pi$ exact when requested; $\pi\approx3.14$ would introduce approximation. For subtraction, 5/6-3/4=10/12-9/12=1/12; for a negative mixed number, -1½ means -(1+1/2)=-3/2.

Adding denominators does not preserve the unit size: 1/2+1/3 is not 2/5. Cancel only factors of a whole numerator and denominator. A division by zero is undefined.

For a non-calculator question show the common denominator or reciprocal step. Convert 19/12 to 1 7/12 if a mixed number is requested; round only when the question explicitly needs a decimal.

Six eighths contain 6/5 groups of five eighths




*Original native-lesson illustration; labels belong to its worked example.*

## 2 Practice

**2.1** (Foundation) Find 1½-¾.

**2.2** (Foundation) Find (-2/3)×(9/4).

**2.3** (Foundation) Find (3/4)÷(5/8).

## 3 Exam-style questions

**3.1** Decide whether this claim is true. Justify with a concrete calculation or counterexample: To add two fractions, add their numerators and add their denominators.