

Adding and subtracting fractions with unlike denominators

MODULE 3 · FRACTIONS, DECIMALS AND PERCENTAGES NUMBER

You can only add or subtract fractions once they share a **common denominator**. Change them, then add or subtract the tops.

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→ $1/2 + 1/3 \rightarrow 3/6 + 2/6 = 5/6$.
 → $3/4 - 1/6 \rightarrow 9/12 - 2/12 = 7/12$.

WORK OUT $1/2 + 1/3$

- 1 Common denominator of 2 and 3 is 6.
- 2 $1/2 = 3/6$; $1/3 = 2/6$.
- 3 Add the tops: $3/6 + 2/6 = 5/6$.

HOW TO ANSWER TODAY

- **Different-bottom fractions.** Bottoms different → make them the same first (common denominator). Then add or subtract the tops.

$1/2 + 1/3 \rightarrow 3/6 + 2/6 = 5/6$

WARM-UP

- a. $3/4 + 4/12 =$ b. $2/3 + 8/9 =$ c. $1/2 + 3/4 =$ d. $1/2 + 4/6 =$

PRACTICE

- 1 Mr O'Sullivan uses $3/4$ of one box of photocopier paper for the maths worksheets, then $3/5$ of a second box for the English worksheets. How many boxes of paper has he used altogether?

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- 2 Niamh helps out at her granny's farm in Wicklow, filling buckets of feed for the calves. The first bucket is $2/4$ full and the second bucket is $4/5$ full. How much feed is there altogether, as a fraction of a bucket?

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SPOT THE MISTAKE

Niamh works out $1/2 + 1/3$:

Add the tops: $1 + 1 = 2$
 Add the bottoms: $2 + 3 = 5$
 Answer: $2/5$

Find Niamh's mistake. What is the correct answer?