CALCULATORGOAT / WORKED EXAMPLE

Add Fractions with Unlike Denominators

Fractions with unlike denominators describe parts of different sizes, so their numerators cannot be added directly. Rewrite each fraction as an equivalent fraction with a shared denominator first. For 5/6 and 3/8, the least common denominator is 24, which lets both values be counted in twenty-fourths.

Example

Add 5/6 + 3/8.

$$5/6 + 3/8$$

Step-by-step solution

STEP 1

Find a common denominator

The least common multiple of 6 and 8 is 24.

$$\text{lcm}(6,8) = 24$$

STEP 2

Rewrite both fractions

Multiply 5/6 by 4/4 and 3/8 by 3/3.

$$5/6 = 20/24;\ 3/8 = 9/24$$

STEP 3

Add the numerators

Now both fractions use the same-sized parts.

$$20/24 + 9/24 = 29/24$$

STEP 4

Write as a mixed number

Twenty-four twenty-fourths make one whole, with five twenty-fourths left.

$$29/24 = 1\ 5/24$$

ANSWER

5/6 + 3/8 = 1 5/24

5/6 + 3/8 = 29/24, approximately 1.2083, matching 1 5/24.

Use this worked example to review the method, then try a similar problem on your own.