MATHEMATICS · GRADES 4-6

Understanding equivalent fractions

Difficulty level: Intermediate

Mathematics: Grades 4-6

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you recognise that two fractions can name the same amount, like half a pizza and two quarters of a pizza, which is what makes comparing and simplifying fractions possible. The pieces are different sizes, but the amount they cover is exactly the same. Seeing that sameness lets you swap one fraction for another, compare them, or simplify one down to its plainest form. That is the idea behind every fraction comparison, from sharing food to measuring ingredients.



Rule

Equivalent fractions: two fractions name the same amount when you can get one from the other by multiplying or dividing the top and bottom by the same number.

Whatever you do to the top, do to the bottom.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Find the missing numerator $\frac{1}{2} = \frac{?}{8}$.

SOLUTION

This is an equivalent fractions question, so the one rule to remember is: whatever you do to the bottom, do to the top. Multiply or divide both parts by the same number and the value stays the same.

To get from 2 to 8 on the bottom, multiply by 4, so multiply the top by 4 as well: $1 \times 4 = 4$

So $\frac{1}{2} = \frac{4}{8}$

EXAMPLE 2

Q Are $\frac{3}{4}$ and $\frac{9}{12}$ equivalent?

SOLUTION

This is the same question type asked as a yes or no: check whether one fraction can be made from the other by multiplying top and bottom by the same number.

Multiply the top and bottom of $\frac{3}{4}$ by 3: $3 \times 3 = 9$ and $4 \times 3 = 12$

That gives $\frac{9}{12}$ exactly, so yes, they are equivalent.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 Find the missing numerator $\frac{2}{3} = \frac{?}{9}$

Understand It with Pulse | Flag a mistake

2 Find the missing numerator $\frac{3}{5} = \frac{?}{20}$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 Which of these fractions is NOT equivalent to $\frac{1}{2}$?

$\frac{4}{8}$

$\frac{6}{12}$

$\frac{5}{10}$

$\frac{3}{8}$

Understand It with Pulse | Flag a mistake

4 Simplify $\frac{8}{12}$ to its lowest terms.

Understand It with Pulse | Flag a mistake

5 Find the missing denominator $\frac{4}{6} = \frac{2}{?}$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 Which pair of fractions are both equivalent to $\frac{3}{4}$?

A $\frac{6}{8}$ and $\frac{9}{12}$

B $\frac{6}{8}$ and $\frac{10}{12}$

C $\frac{4}{8}$ and $\frac{9}{12}$

D $\frac{6}{8}$ and $\frac{8}{12}$

Understand It with Pulse | Flag a mistake

7 Find the missing denominator $\frac{5}{6} = \frac{15}{?}$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

8 Are $\frac{2}{5}$ and $\frac{6}{15}$ equivalent?

A Yes

B No

Understand It with Pulse | Flag a mistake

9 Find the missing numerator $\frac{?}{9} = \frac{8}{36}$

Understand It with Pulse | Flag a mistake

10 Sara eats $\frac{2}{4}$ of a pizza and Tom eats $\frac{4}{8}$. Did they eat the same amount?

A Yes

B No

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. 6

2. 12

3. $\frac{3}{8}$

4. $\frac{2}{3}$

5. 3

6. $\frac{6}{8}$ and $\frac{9}{12}$

7. 18

8. Yes

9. 2

10. Yes

© 2026 Brett Robbins. All Rights Reserved.