

## Understanding Fractions

A fraction names a part of a whole. The top number (numerator) is how many pieces you have. The bottom number (denominator) is how many equal pieces the whole was split into.


Part of a fraction	What it tells you
Numerator (top)	How many parts we are talking about
Denominator (bottom)	How many equal parts make a whole
Unit fraction	A fraction with 1 on top: $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \dots$

### Key Concepts

1. A **fraction** is one or more equal parts of a whole. The whole must be split into pieces of the *same size* for a fraction to make sense.
2. The bottom number (**denominator**) tells you the total number of equal parts. The top number (**numerator**) tells you how many of those parts you are counting.
3. A **unit fraction** has a numerator of 1 — it represents exactly one of the equal parts:  $\frac{1}{4}$  is one of 4 equal pieces.
4. When the numerator equals the denominator (like  $\frac{4}{4}$ ), you have the whole thing — all of the equal pieces put together.


### Worked Examples

① A rectangle is divided into 6 equal parts and 5 are shaded. What fraction is shaded?

 Numerator = shaded parts = 5. Denominator = total equal parts = 6. So the shaded fraction is  $\frac{5}{6}$ . Read it as “five sixths.”


 **Answer:**  $\frac{5}{6}$

② Name the fraction for 2 out of 8 equal slices of a pizza.

 Numerator = 2 (the slices we are talking about). Denominator = 8 (the total equal slices the pizza was cut into). The fraction is  $\frac{2}{8}$ . Read it “two eighths.”

 **Answer:**  $\frac{2}{8}$

③ What unit fraction does each piece represent when a pie is cut into 3 equal slices?

 “Unit” fraction means we are talking about a single piece. The pie is split into 3 equal slices, so the denominator is 3. One slice is the unit, so the numerator is 1. The unit fraction is  $\frac{1}{3}$ .

 **Answer:**  $\frac{1}{3}$

### Practice Problems

Write each fraction.

- |   |  |
|---|--|
| 1. 3 out of 4 equal parts _____         | _____                                    |
| 2. 1 out of 6 equal parts _____         | _____                                    |
| 3. 5 out of 8 equal parts _____         | _____                                    |
| 4. 2 out of 3 equal parts _____         | _____                                    |
| 5. 4 out of 4 equal parts (whole) _____ | _____                                    |
| 6. 7 out of 8 equal parts _____         | _____                                    |
| 7. Numerator = 3, denominator = 6 _____ | _____                                    |
|   | 8. Numerator = 1, denominator = 2 _____  |
|   | 9. Unit fraction of 4 equal parts _____  |
|   | 10. Unit fraction of 8 equal parts _____ |
|   | 11. 6 out of 6 equal parts _____         |
|   | 12. Numerator = 5, denominator = 6 _____ |

### Study Tips

- 👉 The whole must be cut into *equal* parts. Three unequal pieces don't make thirds!
- 👉 "Unit fraction" just means a fraction with 1 on top. Every fraction can be thought of as a count of unit fractions:  $\frac{3}{4} = 3$  copies of  $\frac{1}{4}$ .
- 👉 When numerator = denominator, you have a whole.  $\frac{6}{6} = 1$ .

### Word Problems

1. A cake is cut into 8 equal slices. Mia eats 3 slices. What fraction of the cake did she eat?

Answer: \_\_\_\_\_

2. A garden has 6 equal sections. If 4 sections have flowers, what fraction of the garden has flowers?

Answer: \_\_\_\_\_

**Answer Key — with Friendly Explanations****Practice Problems**

1. Numerator 3, denominator 4.

 **Answer:**  $\frac{3}{4}$

2. Numerator 1, denominator 6.

 **Answer:**  $\frac{1}{6}$

3. Numerator 5, denominator 8.

 **Answer:**  $\frac{5}{8}$

4. Numerator 2, denominator 3.

 **Answer:**  $\frac{2}{3}$

5. When numerator = denominator, you have the whole (= 1).

 **Answer:**  $\frac{4}{4}$  (one whole)

6. Numerator 7, denominator 8.

 **Answer:**  $\frac{7}{8}$

7. Numerator 3, denominator 6.

 **Answer:**  $\frac{3}{6}$

8. Numerator 1, denominator 2.

 **Answer:**  $\frac{1}{2}$

9. Unit fraction has 1 on top; denominator 4.

 **Answer:**  $\frac{1}{4}$

10. Unit fraction with denominator 8.

 **Answer:**  $\frac{1}{8}$

11. All 6 parts together is one whole.

 **Answer:**  $\frac{6}{6}$  (one whole)

12. Numerator 5, denominator 6.

 **Answer:**  $\frac{5}{6}$

**Word Problems**

1. 3 slices eaten out of 8 equal slices:  $\frac{3}{8}$ .

 **Answer:**  $\frac{3}{8}$

2. 4 flower sections out of 6 equal sections:  $\frac{4}{6}$ .

 **Answer:**  $\frac{4}{6}$

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