Cheatography

# Fractions (Grade 8) Cheat Sheet

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## How to multiply fractions

| | |
|---|---|
| 1. If you have a mixed number fraction, turn it into an improper fraction | Example: 1 1/3 x 3/6 |
| 2. Multiply your denominators | 1. 1 1/3 becomes 4/3 |
| 3. Multiply your numerators | 2. 3 x 6 = 18 |
| 4. Put your new numerator over your new denominator | 3. 4 x 3 = 12 |
| 5. Simplify your (im)proper fraction | 4. 12/18 |
| 6. Now you're done | 5. 12/18 becomes 1 1/2 |

## How to divide fractions

| | |
|---|---|
| 1. If you have a mixed number fraction, turn it into an improper fraction | Example: 1 1/4 ÷ 4/5 |
| 2. Find the reciprocal of your second fraction | 1. 1 1/4 becomes 5/4 |
| 3. Now multiply your new numerators | 2. 4/5 becomes 5/4 |
| 4. And...multiply your new denominators | 3. 5 x 5 = 25 |
| 5. Put your new numerator over your new denominator | 4. 5 x 5 = 25 |
| 6. Simplify the (im)proper fraction | 5. 25/25 |
| 7. You're done | 6. 1 |

## Mixed numbers into improper fractions

| | |
|---|---|
| 1. Divide the numerator by the denominator | Example: 6/4 |
| 2. Write down the whole number answer | 1. 6 ÷ 4 = 1.5 |
| 3. Write down any remainder above the denominator | 2. 1 |
| 4. Simplify your fraction (if necessary) | 3. 2/4 |
| 5. Put your whole number in front of your new fraction | 4. 1/2 |
| 6. You're done | 5. 1 1/2 |

## How to add fractions

| | |
|---|---|
| 1. Make your denominators the same. To do this, find the lowest common multiple of both denominators | Example: 3/4 + 7/8 |
| 2. Add your numerators | 1. 4 + 4 = 8. New denominator = 8 |
| 3. Put that answer over your denominator | 2. 6 + 7 = 13 |
| 4. Simplify your fraction (if necessary) | 3. 13/8 |
| 5. You're done! | 4. 1 3/4 |

## How to subtract fractions

| | |
|---|---|
| 1. Make your denominators the same. To do this, find the lowest common multiple of both denominators | Example: 1/2 - 1/4 |
| 2. Subtract your second numerator from your first numerator | 2 + 2 = 4, new denominator = 4 |
| 3. Put your new numerator over your denominator | 2. 2 - 1 = 1 |
| 4. Simplify your fraction (if necessary) | 3. 1/4 |
| 5. You're done! | 4. 1/4 |

## Improper fractions into mixed numbers

| | |
|---|---|
| 1. Multiply the whole number by the denominator | Example: 1 5/10 |
| 2. Add this number to your numerator | 1. 1 x 10 = 10 |
| 3. Put that number over your denominator | 2. 10 + 5 = 15 |
| 4. Simplify your improper fraction if possible | 3. 15/10 |
| 5. You're done! | 4. 3/2 |


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| Fraction terms | |
|---|---|
| Reciprocal = the result of flipping the number upside down | 1/2 = proper fraction because the numerator is smaller than the denominator |
| The first or top number is the numerator. Ex. 1 in 1/4 | 3/2 = improper fraction because the numerator is bigger than the denominator |
| The second or lower number is the denominator | 1 1/2 = mixed number fraction because there's a whole number and a fraction combined to make one fraction |
| When a shape is divided into equal sections of which some have been shaded, the amount of shaded sections is the numerator and the total amount of sections, unshaded or shaded is your denominator | When there is a numerator over another fraction, you divide the lower number, top number divided by bottom number and then you divide the numerator by the new denominator |

| How to simplify fractions | |
|---|---|
| 1. Write down the factors of the numerator and the denominator until you find the lowest common multiple | Example: 6/4 |
| 2. Determine what the lowest common multiple is | 1. 2, 6, 12 2, 4, 8, 12 |
| 3. Divide the numerator and the denominator by their lowest common multiple | 2. 2 |
| 4. Write down the new simplified fraction | 3. 6 ÷ 2 = 3 and 4 ÷ 2 = 2 |
| 5. You're done! | 4. 3/2 |

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