Cheatography

Fractions (Grade 8) Cheat Sheet

by Rocketroses17 via cheatography.com/133946/cs/27492/

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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