

Summary of Fraction Rules

| TOPIC | RULE |
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| Adding or subtracting fractions that are not mixed numbers (LCD REQUIRED) | First find the lowest common denominator. Second rewrite all fractions using the LCD. Be sure to multiply both numerators and denominators by the same quantities. Add/subtract the numerators and carry along the least common denominator. Reduce the answer, if possible. |
| Multiplying fractions that are not mixed numbers (LCD NOT REQUIRED) | Prime factor the numerators and denominators of each fraction. Divide out any common factors. Multiply the remaining factors in the numerators to obtain the numerator of the answer. Multiply the remaining factors in the denominators to obtain the denominator of the answer. |
| Dividing fractions that are not mixed numbers (LCD NOT REQUIRED) | Leave the first fraction unchanged. Change the division symbol to a multiplication symbol. Invert the second fraction. If the second fraction is a mixed number, change it to an improper fraction first and then invert. Follow the multiplication rules to find the answer. |
| Multiplying mixed numbers (LCD NOT REQUIRED) | Change all mixed numbers to improper fractions and then follow the rules for multiplying fractions. |
| Dividing mixed numbers (LCD NOT REQUIRED) | Change all mixed numbers to improper fractions and then follow the rules for dividing fractions. |
| Adding mixed numbers (LCD REQUIRED) | Method 1: Change all mixed numbers to improper fractions, and then follow the rule for adding fractions. Reduce answer if needed. Method 2: Add the whole number parts, and then add the proper fraction parts, getting a LCD if needed. If the answer contains an improper fraction, convert to a mixed number. Reduce answer if needed. |
| Subtracting mixed numbers (LCD REQUIRED) | Method 1: Change all mixed numbers to improper fractions, and then follow the rule for subtracting fractions. Reduce answer if needed. Method 2: Subtract the whole number parts, and then subtract the proper fraction parts, getting a LCD if needed. Use borrowing if the second fraction is larger than the first. Reduce answer if needed. |