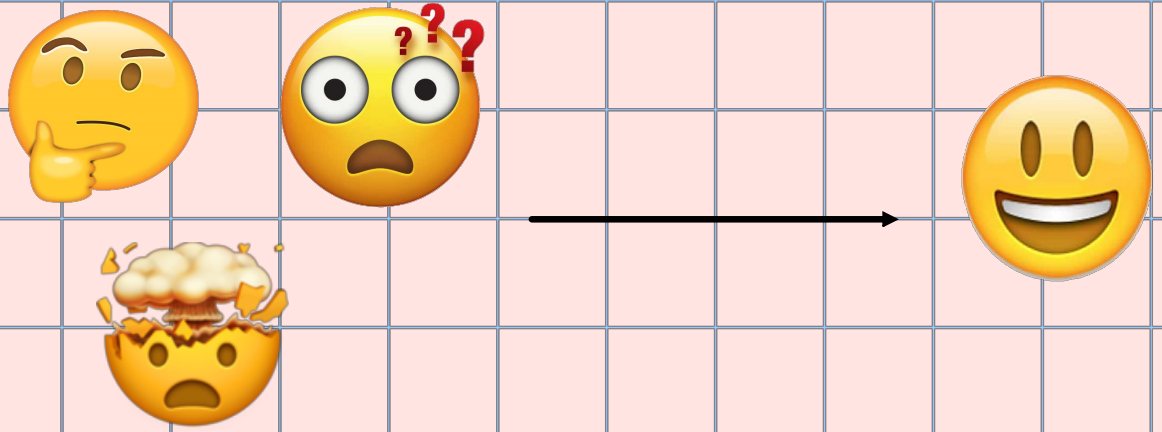
Adding and subtracting fractions



Oct 10-14:49

Adding and subtracting fractions.

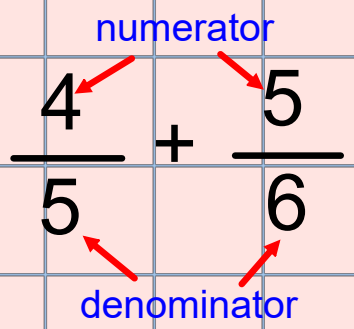
Step 1: Make sure the bottom numbers (the denominators) are the same.
If not, find a common multiple of both denominators.

Step 2: What did you multiply each denominator by?
Multiply the numerator by this number.

Step 3: Add the top numbers (the numerators), put the answer over the denominator (which stays the same)

Step 4: Simplify the fraction (if needed).
Using common factors knowledge

These are our Steps to Success.



Multiple: A number that may be divided by another number without a remainder.

(Multiples of 5 are 5,10,15,20,25...)

Factors: Numbers that can be multiplied together to get the original number.

(Factors of 12 are 1,2,3,4,6 and 12)

Oct 10-14:49

How to teach adding and subtracting fractions

$$\frac{4}{5} + \frac{5}{6}$$

Step 1: Make sure the bottom numbers (the denominators) are the same.
If not, find a common multiple of both denominators.

Step 2: What did you multiply each denominator by?
Multiply the numerator by this number.

Step 3: Add the top numbers (the numerators), put the answer over the denominator (which stays the same)

Step 4: Simplify the fraction (if needed).
Using common factors knowledge

Multiples of 5

5, 10, 15, 20, 25, 30

Multiples of 6

6, 12, 18, 24, 30

Common multiple

Our shortcut method:

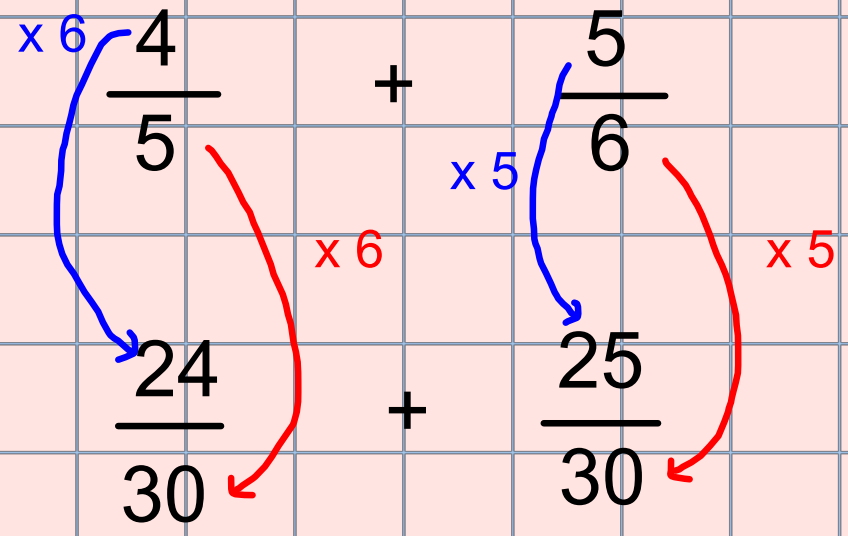
Multiply the two denominators together.

In most cases this will give the lowest common factor, but not always unfortunately!

$^1/_6 + {}^1/_9$

Oct 10-14:49

How to teach adding and subtracting fractions



5, 10, 15, 20, 25, 30

6, 12, 18, 24, 30

Step 1: Make sure the bottom numbers (the denominators) are the same.
If not, find a common multiple of both denominators.

Step 2: What did you multiply each denominator by?
Multiply the numerator by this number.

Step 3: Add the top numbers (the numerators), put the answer over the denominator (which stays the same)

Step 4: Simplify the fraction (if needed).
Using common factors knowledge

Oct 10-14:49

How to teach adding and subtracting fractions

$$\frac{4}{5} + \frac{5}{6}$$

$$\frac{24}{30} + \frac{25}{30} = \frac{49}{30}$$

Step 1: Make sure the bottom numbers (the denominators) are the same.
If not, find a common multiple of both denominators.

Step 2: What did you multiply each denominator by?
Multiply the numerator by this number.

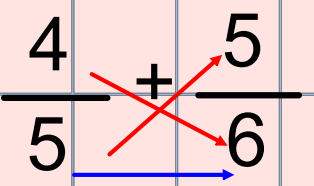
Step 3: Add the top numbers (the numerators), put the answer over the denominator (which stays the same)

Step 4: Simplify the fraction (if needed).
Using common factors knowledge

Our even shorter cut method:

To get the numerator, you can 'cross multiply'. **(4 x 6) + (5 x 5) = 49**

Multiply the denominators together. **5 x 6 = 30**



Oct 10-14:49

How to teach adding and subtracting fractions

$$\frac{24}{30} + \frac{25}{30} = \frac{49}{30} = 1\frac{19}{30}$$

Step 1: Make sure the bottom numbers (the denominators) are the same.
If not, find a common multiple of both denominators.

Step 2: What did you multiply each denominator by?
Multiply the numerator by this number.

Step 3: Add the top numbers (the numerators), put the answer over the denominator ~~(which stays the same)~~

Step 4: Simplify the fraction (if needed).
Using common factors knowledge

$\frac{30}{30}$ $\frac{19}{30}$

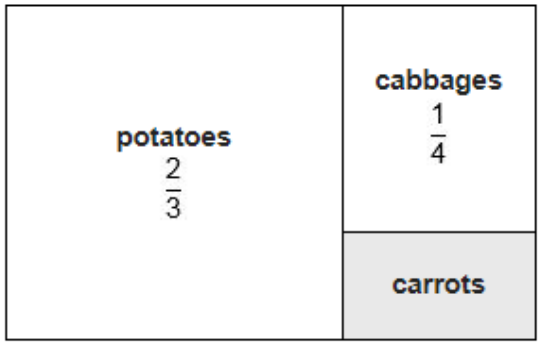
1 whole $\frac{19}{30}$

Oct 10-14:49

Example SATs questions

This is a diagram of a vegetable garden.

It shows the fractions of the garden planted with potatoes and cabbages.

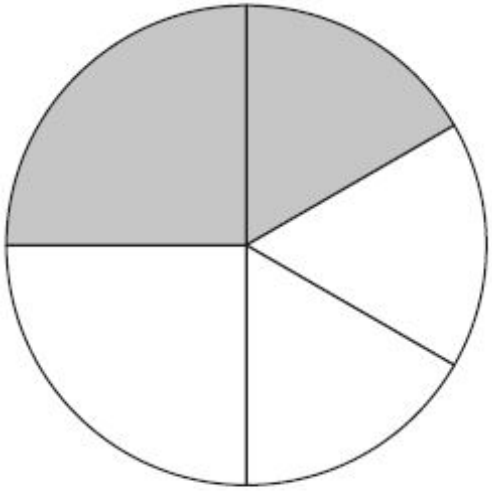


Not to scale

The remaining area is planted with carrots.

What **fraction** of the garden is planted with carrots?

In this circle, $\frac{1}{4}$ and $\frac{1}{6}$ are shaded.



What fraction of the whole circle is not shaded?

Oct 10-14:49

In year 5

add and subtract fractions with the same denominator and denominators that are multiples of the same number $3/7 + 2/7$

$3/5 - 1/10$

In year 6

add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions $1\,3/7 + 2/5$

$2\,3/5 - 1/6$

Oct 8-14:53

Oct 17-18:17