Integer Rules

Add

Same Sign

Add and take the sign

(-3) + (-4) = -7
3 + 7 = 10

Different Sign

Subtract and take the sign of largest absolute value

(-5) + 9 = 4
(-13) + 8 = -5

Subtract

Change to add the opposite

(-3) – (+4) = (-3) + (-4)
(-5) – (-9) = (-5) + (+9)

Multiply/Divide

Same Sign
Positive answer

Different Sign
Negative answer

Reducing Fractions

Method 1

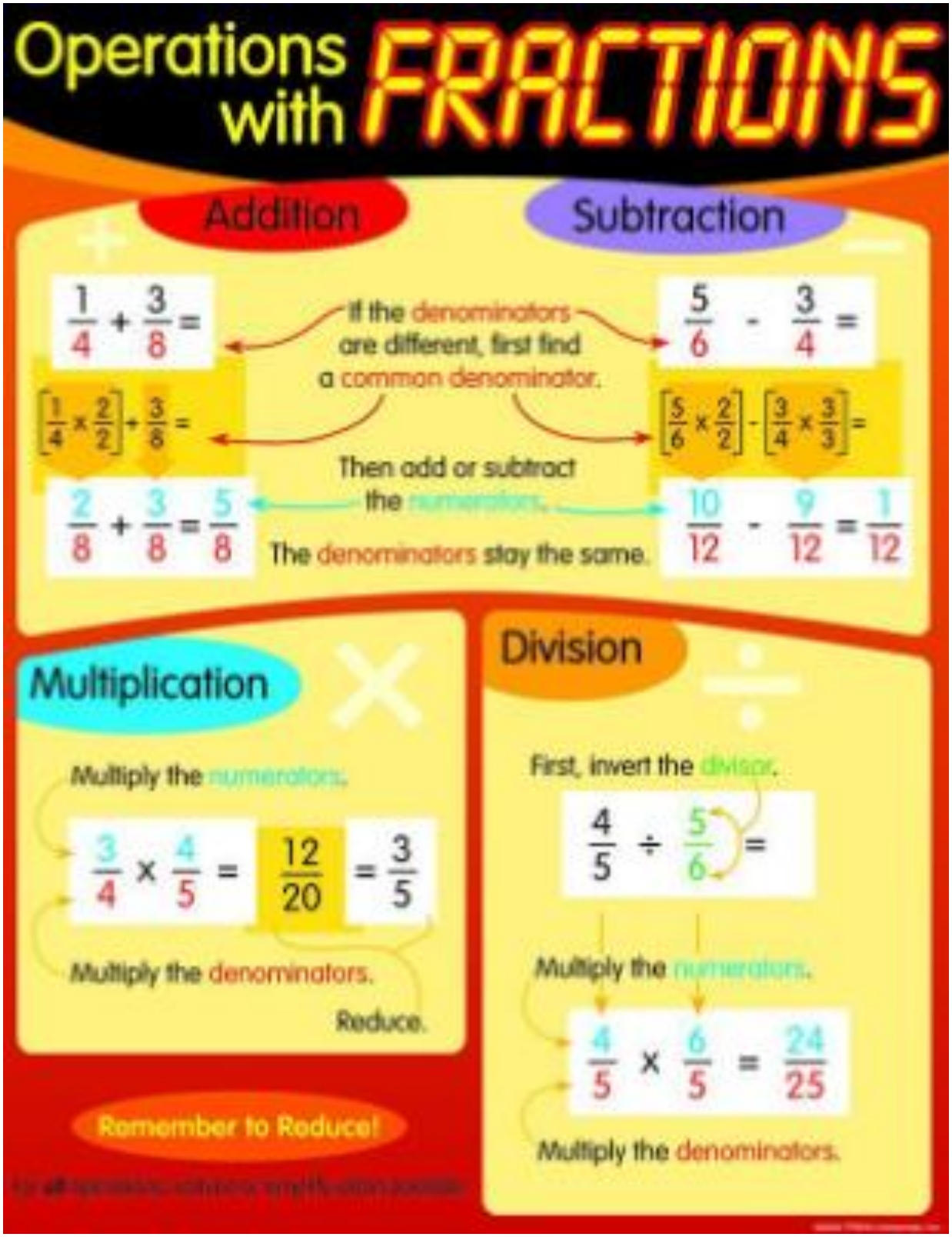
1. Find a number that can divide the top and bottom.
2. Divide top and bottom by that number.
3. Repeat from step 1 until there is no number, greater than 1, that can divide the top and bottom.

$$\frac{28}{42} \overset{\div 2}{=} \frac{14}{21} \overset{\div 7}{=} \frac{2}{3}$$

Method 2

1. Find the Greatest Common Factor (GCF)
2. Divide top and bottom by GCF.

$$\frac{8}{12} \overset{\div 4}{=} \frac{2}{3}$$


Operations with FRACTIONS
Addition
Subtraction
1/4 + 3/8 =
If the denominators are different, first find a common denominator.
5/6 - 3/4 =
[1/4 x 2/2] + 3/8 =
[5/6 x 2/2] - [3/4 x 3/3] =
Then add or subtract the numerators.
2/8 + 3/8 = 5/8
The denominators stay the same.
10/12 - 9/12 = 1/12
Multiplication
Multiply the numerators.
3/4 x 4/5 = 12/20 = 3/5
Multiply the denominators.
Reduce.
Remember to Reduce!
Division
First, invert the divisor.
4/5 ÷ 5/6 =
Multiply the numerators.
4/5 x 6/5 = 24/25
Multiply the denominators.