

EVERYTHING YOU NEED TO KNOW ABOUT FRACTIONS

💡 ALWAYS SIMPLIFY (REDUCE) FRACTIONS BEFORE you try to do ANYTHING WITH THEM AND AFTER YOU FINISH A PROBLEM.

To SIMPLIFY A FRACTION, FIND A NUMBER THAT GOES IN EVENLY TO THE TOP (NUMERATOR) AND BOTTOM (DENOMINATOR).

💡 Divisibility Rules ARE HELPFUL WHEN SIMPLIFYING FRACTIONS

Numbers ARE Divisible by _____ if _____



2
3 or 9

5
6
10

they ARE EVEN (END IN 0, 2, 4, 6, 8)
the SUM OF THEIR DIGITS IS DIVISIBLE BY 3 OR 9 (OR BOTH)
EX) 56421
 $5+6+4+2+1=18$ ← since 18 is divisible by 3 and 9, so is 56421
EX) 564
 $5+6+4=15$ ← since 15 is divisible by 3, so is 564
the number ends in 0 or 5
the number is divisible by 2 AND 3
the number ends in zero

+,- To ADD or subtract fractions, find a common denominator

$$\text{EX) } \frac{1}{2} + \frac{1}{3}$$

$$\frac{3}{6} + \frac{2}{6} = \boxed{\frac{5}{6}}$$

$$\text{Since } \frac{1}{2} \cdot \frac{3}{3} = \frac{3}{6}$$

$$\frac{1}{3} \cdot \frac{2}{2} = \frac{2}{6}$$

• To multiply fractions, tops • tops
bottoms • bottoms

$$\text{EX) } \frac{1}{2} \cdot \frac{1}{3} = \boxed{\frac{1}{6}}$$

💡 "Cross Cancel" AND SIMPLIFY, if possible, before multiplying.

÷ To divide fractions, take the divisor (the bottom fraction) and "flip" it (take its reciprocal), then multiply.

$$\text{EX) } \frac{1}{2} \div \frac{1}{3} = \frac{1}{2} \cdot \frac{3}{1} = \boxed{\frac{3}{2}}$$

reciprocal →

💡 Whenever needed, make an integer into a fraction by putting it "over 1" EX) $5 \cdot \frac{2}{3} = \frac{5}{1} \cdot \frac{2}{3} = \boxed{\frac{10}{3}}$

over 1 →