Lesson 1: Arithmetic ~ Decimals and Fractions

By the end of the lesson, you will be able to:

~ Add, Subtract, Multiply, & Divide Integers
~ Add, Subtract, Multiply, & Divide Decimals
~ Add, Subtract, Multiply, & Divide Fractions

Integer Rules

positive + positive

- Add, answer positive

Examples

a.) $98 + 53 =$

b.) $57 - (-33) =$

Integer Rules

positive + negative

- Subtract as positives (biggest on top)
- Answer is sign of biggest number

Examples

a.) $-55-(-21)=$

b.) $135+(-42)=$

Integer Rules

negative + negative

- Add, answer is negative

Examples

a.) $-21 + (-33) =$

b.) $-12 - 51 =$

Integer Rules

positive × or ÷ positive

- Do × or ÷ then answer is positive

Examples

a.) $5 \times 8 =$

b.) $11 \cdot 3 =$

c.) $22 \div 11 =$

Integer Rules

negative × or ÷ positive

- Do × or ÷ then answer is negative

Examples

a.) $-4 \times 7 =$

b.) $12 \cdot (-3) =$

c.) $-48 \div 12 =$

Integer Rules

negative × or ÷ negative

- Do × or ÷ then answer is positive

Examples

a.) $-3 \times (-10) =$

b.) $-10 \cdot (-12) =$

c.) $-56 \div (-8) =$

Decimal Rules

Add and Subtract

- Line up decimals,
- Add or subtract as usual
- Bring decimal straight down

Examples

a.) $1.2 + 5.678 =$

b.) $-3.25 + 7.056 =$

Decimal Rules

Multiply

- Do not line up decimals (easier to put longes number on top)
- Multiply as usual
- Count over from right **total** decimal places

Examples

a.) $6.8 \times 1.25 =$

Examples

b.) $(-33)(1.356) =$

Decimal Rules

Divide

- First or top number inside division symbol
- Move decimal on outside number all the way right
- Move decimal on inside number the same amount
- Long division as usual
- Move decimal straight up

Examples

a.) $144 \div (-8) =$

b.) $1.25 \div 0.05 =$

Examples

c.) $132 \div 0.11 =$

d.) $2.56 \div 0.4 =$

Fraction Rules

Multiply

- Change any mixed numbers to fractions
- Reduce (cancel) everything possible
- Multiply straight across

Examples

a.) $\frac{3}{4} \times \frac{22}{9} =$

Examples

b.) $\left(1\frac{4}{5}\right)\left(3\frac{3}{4}\right) =$

c.) $\left(\frac{1}{8}\right)\left(-5\frac{1}{3}\right) =$

Fraction Rules

Divide

- Change any mixed numbers to fractions
- Turn the second number upside down (reciprocal)
- Change divide to multiply
- Reduce (cancel) everything possible
- Multiply straight across

To divide fractions, we must do KFC. KFC stands for:

K- Keep 1st fraction as is.

F - Flip the 2nd fraction (reciprocal).

C - Change the divide to a multiply.

Examples

a.) $\frac{2}{3} \div \left(-\frac{5}{12}\right) =$

b.) $\left(-1\frac{3}{5}\right) \div \left(\frac{6}{15}\right) =$

c.) $5\frac{1}{4} \div \frac{1}{4} =$

Fraction Rules

Add and Subtract

- Get a least common denominator for all fractions
- Add or subtract numerators as usual
- Leave denominator the same
- Reduce as far as possible (no mixed numbers)

Examples

a.) $\frac{1}{5} + \frac{3}{5} =$

b.) $-\frac{3}{5} - \frac{1}{3} =$

c.) $-\frac{5}{6} + \frac{7}{8} =$

Lesson 1: Arithmetic ~ Decimals and Fractions

By the end of the lesson, you will be able to:

~ Add, Subtract, Multiply, & Divide
Integers, Decimals, & Fractions

Can you?

Homework:

Assignment 1