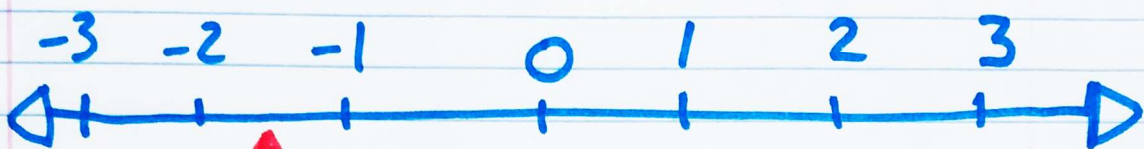


Lesson 2-1 → Converting Using a Calculator



This single place on the number line has MANY different names!

-1.5 as a decimal

$-1\frac{1}{2}$ as a fraction

This unit is all about changing from decimals to fractions and back

General Rules:

- decimals are generally more SBA calculator friendly
- You need numbers in the same form to work
- Don't round unless told to do so

From Mixed number to decimal

write $-259\frac{37}{50}$ as a decimal

- ① we know negative stays the same
- ② SEPARATE whole number & fraction

$$-259 \longleftrightarrow \frac{37}{50}$$

- ③ Keep the whole number the same
- ④ Treat the fraction as a division problem in disguise!

$$\frac{37}{50} = 37 \div 50 = 0.74$$

use calculator

- ⑤ SMUSH whole number & decimal back together

$$-259 \longleftrightarrow 0.74$$

$$-259.74$$

Dealing with Repeating Decimals

write $-5\frac{2}{3}$ as a decimal

If we try the separate and smush approach:

$$-5 \longleftrightarrow \frac{2}{3} = 2 \div 3 = 0.66666\dots$$

use calculator

This is a repeating decimal, which is written as:

$$-5\frac{2}{3} \rightarrow -5.\overline{6} \quad (\text{don't round unless told to!})$$

The bar goes over the part of the decimal that repeats

$$-2\frac{5}{11} \rightarrow \begin{array}{l} \text{whole number } -2 \\ \text{fraction } 5 \div 11 = 0.454545\dots \end{array} \rightarrow -2.\overline{45}$$

You have to know all about repeating decimals for 7th grade, but they are NOT calculator friendly \rightarrow more on that in lesson ~~2-4~~ 2-4. oops!

Converting From a decimal to fraction.

Use place value!

write 0.75 as a simplified fraction

tenths place ↙ ↘ hundredths place

$$0.75 = \frac{75}{100} \quad \text{but now to simplify!}$$

An Awesome starting place is to try dividing TOP & BOTTOM by these numbers

2 3 5

until it no longer works

$$\begin{array}{l} \frac{75}{100} \div 5 = \frac{15}{20} \div 5 = \frac{3}{4} \text{ DONE!} \end{array}$$

The 2, 3, 5 approach misses other factors,

such as $\frac{14}{35} \div 7 = \frac{2}{5}$ but 2, 3, 5 is still 😊