

Name: _____

Period: _____

Date: _____

Math Unit 12: Rational Numbers

12.1-Rational Numbers

SWBAT:**Paraphrase:****Essential Question:** How can you use a number line to order rational numbers?**Vocabulary**Rational Number:Terminating Decimal:Repeating Decimal:**Example 1****a. Write $-2\frac{1}{4}$ as a decimal.**Notice that $-2\frac{1}{4} = -\frac{9}{4}$.

Divide 9 by 4.

$$\begin{array}{r} 2.25 \\ 4 \overline{)9.00} \\ \underline{-8} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

The remainder is 0. So, it is a terminating decimal.

So, $-2\frac{1}{4} = -2.25$.**b. Write $\frac{5}{11}$ as a decimal.**

Divide 5 by 11.

$$\begin{array}{r} 0.4545 \\ 11 \overline{)5.0000} \\ \underline{-44} \\ 60 \\ \underline{-55} \\ 50 \\ \underline{-44} \\ 60 \\ \underline{-55} \\ 5 \end{array}$$

The remainder repeats. So, it is a repeating decimal.

So, $\frac{5}{11} = 0.\overline{45}$.**Your Turn****Write the rational number as a decimal.**

1. $-\frac{6}{5}$

2. $-7\frac{3}{8}$

3. $-\frac{3}{11}$

4. $1\frac{5}{27}$

Example 2

Write -0.26 as a fraction in simplest form.

$$-0.26 = -\frac{26}{100}$$

$$= -\frac{13}{50}$$

Write the digits after the decimal point in the numerator.

The last digit is in the hundredths place. So, use 100 in the denominator.

Simplify.

Your Turn

Write the decimal as a fraction or a mixed number in simplest form.

5. -0.7

6. 0.125

7. -3.1

8. -10.25

Example 3

Creature	Elevation (kilometers)
Anglerfish	$-\frac{13}{10}$
Squid	$-2\frac{1}{5}$
Shark	$-\frac{2}{11}$
Whale	-0.8

The table shows the elevations of four sea creatures relative to sea level. Which of the sea creatures are deeper than the whale? Explain.

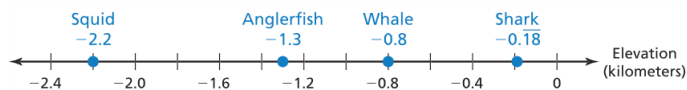
Write each rational number as a decimal.

$$-\frac{13}{10} = -1.3$$

$$-2\frac{1}{5} = -2.2$$

$$-\frac{2}{11} = -0.\overline{18}$$

Then graph each decimal on a number line.



Both -2.2 and -1.3 are less than -0.8 . So, the squid and the anglerfish are deeper than the whale.

Your Turn

9. **WHAT IF?** The elevation of a dolphin is $-\frac{1}{10}$ kilometer. Which of the sea creatures in Example 3 are deeper than the dolphin? Explain.

Notes / Questions