Warm-Up September 5,2019

1. Convert the following into decimals:

A. $\frac{8}{33} = 0.\overline{24}$ Rational #

B. $2\frac{3}{5}$ 2.6 Rational

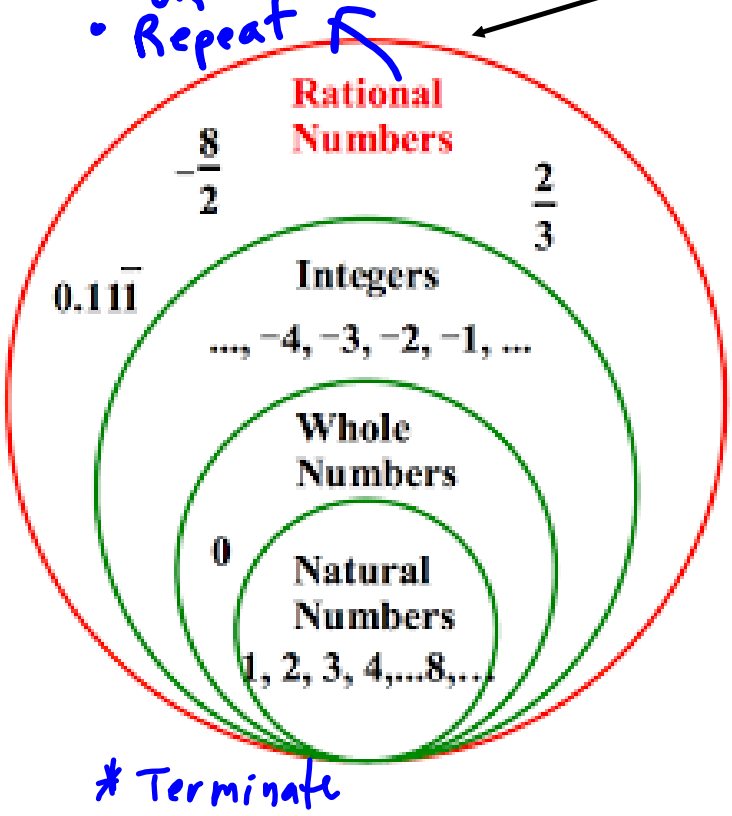
2. Circle the larger number in each pair:

A. -4.3 or -5.2

4.3 or 5.2

B. 3.2 or 3.2

3.20 or $3.2\dot{2}$



* Terminate

• Terminate or • Repeat

Real Numbers

Irrational Numbers

• Doesn't terminate (stop) OR • Doesn't Repeat

No Pattern

$\sqrt{3} = 1.732508...$ goes on

What is the difference between a rational number and an irrational number?

Rational	Irrational
Terminates OR Repeats	Does not terminate Does not repeat

1, 2, 3... 0, 1, 2... No Decimals! Terminate or Repeat

		Natural	Whole	Integers	Rational	Irrational
a)	5.3261...					✓
b)	$\frac{1}{4} = 0.25$				✓	
c)	16	✓	✓	✓	✓	
d)	-2			✓	✓	
e)	8	✓	✓	✓	✓	

Put a check mark above for the category each number fits in.

f) -2.63 ✓

g) $\sqrt{7}$: 2.64575... ✓

1. Identify the rational numbers.

a) 17 $\frac{5}{0}$ -3.606 $\sqrt{3}$ $-8\frac{3}{4}$

b) -0.2 $9.\overline{12}$ $\frac{0}{0}$ $-\frac{13}{4}$ $7.1234\ldots$

2. Write the opposite of each rational number.

a) 9 **b)** $-\frac{23}{3}$ **c)** -17.6

d) $6.\overline{12}$ **e)** 401 **f)** $-7\frac{5}{7}$

Classify each number below. Put a checkmark in the category that applies to the given number.

	Natural	Whole	Integers	Rational	Irrational
1) 0.8				✓	
2) $-\frac{3}{10}$ -0.3				✓	
3) $\sqrt{40} = 6.324\ldots$					✓
4) $\sqrt{81} = 9$	✓	✓	✓	✓	
5) $2\frac{1}{3}$ 2.3				✓	
6) 0.35				✓	
7) 0.33333 ...				✓	
8) -9			✓	✓	
9) 3.4				✓	
10) $\sqrt{2} = 1.414\ldots$					✓

Directions: For each number shown, classify it as either rational or irrational, then tell whether or not it is terminating or repeating.

		(circle one)		*(circle one)*
11)	-0.6	rational or irrational		terminating, repeating, or neither
12)	$\sqrt{100}$ $=10$	rational or irrational		terminating repeating, or neither
13)	$\frac{2}{5}$ $=0.4$	rational or irrational		terminating, repeating, or neither
14)	$-\frac{2}{3}$ $=-0.6\dot{}$	rational or irrational		terminating, repeating, or neither
15)	0.35217534 ...	rational or irrational		terminating, repeating, or neither

$\frac{2}{3}$

16) Which of the following is equivalent to $\frac{3}{8}$?

a) 0.3 b) 0.45 c) 0.6 d) 0.375

17) Which of the following numbers is irrational?

a) 0.252525... b) 0.875 c) 0.3754152... d) -0.121212...

18) Which of the following numbers is rational?

a) $\sqrt{30}$ b) $\sqrt{42}$ c) $\sqrt{64}$ d) -0.125374...

8

18) Which of the following numbers is a terminating decimal?

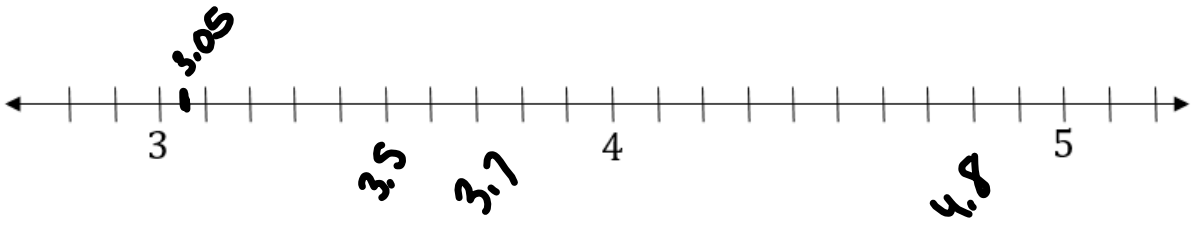
a) $\sqrt{12}$ b) $\frac{7}{8}$ c) $\frac{5}{11}$ d) 0.81818181...

$-14 \leq -12 \qquad -5 \leq -3$

$-3.2 \geq -32$

Place the numbers on the number line below.

22) 3.5 23) 3.7 24) 4.8 25) 3.05



Compare $-\frac{3}{4}$, 1.7, −0.6, $1\frac{1}{2}$, and $-0.\overline{6}$. Write the numbers in ascending order.