

Tuesday, October 14, 2014

Today you need:

*Calculator

*Pencil

*Textbook

*Notes

Compare and Order Rational Numbers

Students will compare and order rational numbers.

How can you compare two fractions?

Vocabulary

***rational number**: any number that can be written as a fraction

Example: 0.6 , $0.\bar{6}$, -2 , $3\frac{2}{5}$

***common denominator**: a common multiple of the denominators of two or more fractions

***least common denominator (LCD)**: the least common multiple of the denominators

Comparing Rational Numbers

To compare fractions, you can find the least common denominator of the two fractions then just compare the numerators! You can also turn both fractions into decimals, line up the decimal point, and compare.

Example 1: $-1\frac{5}{6} < -1\frac{1}{6}$

You try: $-3\frac{3}{8} > -3\frac{7}{8}$

Example 2: $\frac{21}{36} > \frac{16}{36}$

$\frac{7 \times 3}{12 \times 3} > \frac{8 \times 2}{18 \times 2}$

③ Birthday cake

① Listing Multiples
12-12, 24, 36, 48, 60
18-18, 36

② Factor Trees

12: $2 \times 2 \times 3$
18: $2 \times 3 \times 3$
LCM = 36

$\frac{21}{36} = 0.58333...$
 $\frac{16}{36} = 0.4444...$

You try: $\frac{3}{4} < \frac{4}{5}$

$\frac{15}{20} < \frac{16}{20}$

⑤
4: 2×2
5: 5
 $2 \times 2 \times 5 = 20$

$\frac{3}{4} = 0.75$
 $\frac{4}{5} = 0.80$

Example 3: In Mr. Huang's class, 20% of the students own roller shoes. In Mrs. Trevino's class, 5 out of 29 students own roller shoes. In which class does a greater fraction of the students own roller shoes?

$$\frac{20}{100} \div 2 = \frac{10}{50} \div 10 = \frac{1}{5} > \frac{5}{29}$$

$$\begin{array}{r} \frac{1}{5} \\ \frac{5}{29} \end{array} \quad \begin{array}{l} 0.2 \\ 0.1724 \end{array}$$

Mr. Huang's
class

Ordering Rational Numbers

To order rational numbers, make sure that all of the numbers are written as decimals then use place value by lining up the decimals to compare.

Example 4: $\{3.44, \pi, 3.14, 3.\overline{4}\}$

$3.14, \pi, 3.44, 3.\overline{4}$

3.44	3 .	4	4	0	0
π	3 .	1	4	0	0
3.14	3 .	1	4	0	0
3.4	3 .	4	4	4	4 ...

You try : $\{\frac{7}{10}, 0.6, 0.\overline{72}, \frac{16}{25}\}$

$0.6, \frac{16}{25}, \frac{7}{10}, 0.\overline{72}$

$\frac{7}{10}$	0.	7	0	0	0
0.6	0 .	6	0	0	0
$0.\overline{72}$	0.	7	2	7	2
$\frac{16}{25}$	0 .	6	4	0	0

Example 5: Nolan is the quarterback on the football team. He completed 67% of his passes in the first game. He completed 0.64, $\frac{3}{5}$, and 69% of his passes in the next three games. List Nolan's completed passing numbers from least to greatest.