

Fractions and Decimals

September 28/29, 2016

Mr. Collin



Warmup

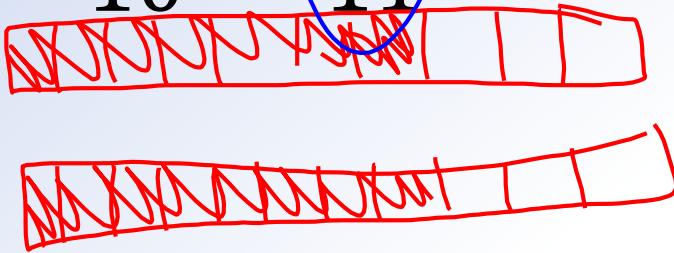
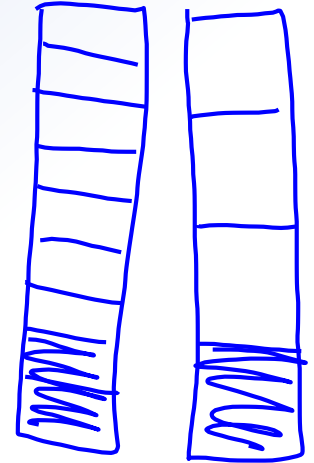
Determine which fraction is larger:

1) $\frac{3}{7}$ or $\frac{4}{9}$ $\frac{27}{63}$ $\frac{28}{63}$

2) $\frac{2}{9}$ or $\frac{1}{4}$

3) $\frac{7}{10}$ or $\frac{8}{11}$

4) $\frac{1}{5}$ or $\frac{2}{11}$
 0.2 0.18





Trade and Grade

- If you received a stamp, you will trade your homework with the person sitting next to you (or someone else near you)
- When you get another person's homework, write your name in the "Corrected By" line at the bottom



Trade and Grade

1) $\frac{3}{4}$

2) 1

3) $\frac{9}{11}$

4) $-\frac{3}{13}$

5) $\frac{3}{5}$

6) $-\frac{1}{8}$

7) 2

8) $\frac{1}{2}$

9) (I checked)



Trade and Grade

- If five or more answers are correct and there is a stamp on the page, write “4” in the score box
- If four or fewer answers are correct, then write “2” in the score box



Fractions and Decimals

- How might I convert a fraction to a decimal
- Fractions are just division!
- Let's try one together



Fractions and Decimals

Let's use long division to convert:

$$\frac{9}{25} =$$

$$\begin{array}{r} .36 \\ 25 \overline{) 9.00} \\ \underline{75} \downarrow \\ 150 \\ \underline{150} \\ 0 \end{array}$$



Now You Try

Convert the following fraction to a decimal:

$$\frac{7}{20} \quad 0.35$$



Finding Patterns

Convert the following and see if you can determine a shortcut...

$$1) \frac{3}{10}$$

0.3

$$2) \frac{21}{100}$$

0.21

$$3) \frac{37}{1000}$$

0.037



Decimals to Fractions

Let's use our shortcut to convert a decimal into a fraction

0.625

$$\frac{625}{1000} \quad \frac{125}{200}$$

$$\frac{25}{40} \quad \frac{5}{8}$$



Decimals to Fractions

Convert each decimal into a simplified fraction:

1) 0.8

2) 0.52

3) 0.85

4) 0.16

5) 0.104

6) 0.75



Repeating Decimals

Let's find out what happens when we convert the following to a decimal:

$$\overline{4}$$

$$\frac{4}{9}$$

$$\begin{array}{r} 4 \\ 9 \overline{) 4.0} \\ \underline{36} \\ 4 \end{array}$$



Now You Try

Convert the following to a decimal:

$$\frac{13}{99}$$

$$\begin{array}{r} \overline{.13} \\ 99 \overline{) 13.00} \\ \underline{99} \downarrow \\ 310 \\ \underline{297} \\ 13 \end{array}$$



Repeating Decimals

- Did you notice a pattern?

$$\frac{5147}{9999}$$

$$0.\overline{5147}$$

$$\frac{13}{999}$$

$$0.\overline{013}$$



Converting Decimals

Use what you have learned to convert between decimals and fractions:

$$1) \frac{19}{99} \quad 0.\overline{19}$$

$$2) 0.\overline{2} \quad \frac{2}{9}$$

$$3) 0.\overline{613} \quad \frac{613}{999}$$

$$4) \frac{217}{999} \quad 0.\overline{217}$$

$$5) \frac{14}{999} \quad 0.\overline{014}$$

$$6) 0.\overline{05} \quad \frac{5}{99}$$



Rational Numbers

- Fractions are often referred to as **rational numbers**
- They are called this because they are a ratio of two integers
- What are some examples of rational numbers? $\frac{1}{2}$ $\frac{3}{4}$ 7 $-\frac{5}{6}$
- Can you think of any irrational numbers? π $\sqrt{2}$

Fractions and Decimals

September 30, 2016

Mr. Collin



Math Project

- Turn in the math project
 - Place them on the shelf below where you turn in the homework
- If you e-mailed your project, turn in the rubric with your name on it



Warmup

Convert each fraction to a decimal and vice versa. Simplify all fractions.

$$1) \frac{4}{99} \quad 0.\overline{04}$$

$$2) 0.\overline{72} \quad \frac{8}{11}$$

$$3) 0.204 \quad \frac{51}{250}$$

$$4) \frac{17}{50} \quad 0.34$$

$$1) \frac{5}{33} \quad 0.\overline{15}$$

$$2) 0.\overline{0043} \quad \frac{43}{9999}$$



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Trade and Grade

$$1) \frac{53}{99}$$

$$2) 0.327$$

$$3) \frac{1591}{10000}$$

$$4) 1$$

$$5) 0.\overline{0017}$$

$$6) \frac{11}{333}$$

$$7) 0.3$$

$$8) 0.0194$$

$$9) 2\frac{43}{1000}$$

$$10) 1.\overline{5}$$

$$11a) \frac{3}{8}$$

$$11b) 0.375$$

$$12) 3.\overline{142857}$$



Trade and Grade

- If seven or more answers are correct and there is a stamp on the page, write “4” in the score box
- If six or fewer answers are correct, then write “2” in the score box



Basketball Review

- I will arrange you into teams
- Each team will get one whiteboard, one marker, and one cloth
- During each round you will solve four problems as a group
- When I call time, you will bring your whiteboard up to the table in the front of the room



Basketball Review

- The more problems you get correct, the closer you get to shoot
- Each team gets to shoot once per round
- Each basket is worth two points
- In case of tie, winner is determined by a shoot-off

Round One

Find the least common denominator of each pair of fractions:

1) $\frac{1}{6}$ and $\frac{5}{9}$

2) $\frac{3}{20}$ and $\frac{7}{12}$

3) $\frac{1}{8}$ and $\frac{3}{14}$

4) $\frac{1}{10}$ and $\frac{3}{6}$

1) 18

2) 60

3) 56

4) 30

Round Two

Evaluate and simplify each expression:

$$1) \frac{1}{7} + \frac{4}{7}$$

$$2) \frac{3}{10} + \frac{9}{10} - \frac{1}{10}$$

$$3) 3\frac{3}{4} + 1\frac{3}{4}$$

$$4) \frac{4}{5} - \frac{9}{5}$$

$$1) \frac{5}{7}$$

$$2) \frac{11}{10}$$

$$3) 5\frac{1}{2}$$

$$4) -1$$

Round Three

Convert each decimal into a simplified fraction:

1) 0.76

2) 0.25

3) $0.\overline{54}$

4) $2.\overline{072}$

1) $\frac{19}{25}$

2) $\frac{1}{4}$

3) $\frac{6}{11}$

4) $2\frac{8}{111}$

Round Four

Evaluate and simplify the following:

$$1) \frac{3}{5} \times \frac{4}{7}$$

$$3) \frac{2}{3} \div \frac{5}{6}$$

$$1) \frac{12}{35}$$

$$2) \frac{1}{3}$$

$$2) \frac{4}{9} \times \frac{3}{4}$$

$$4) \frac{3}{5} \div \frac{1}{5}$$

$$3) \frac{4}{5}$$

$$4) 3$$