Warm Up Grade 8

1) Put the following fraction in order from greatest to least.

$\frac{7}{9}, \frac{3}{4}, \frac{1}{2}, \frac{5}{6}, \frac{7}{12}$

$\frac{28}{36}, \frac{27}{36}, \frac{18}{36}, \frac{30}{36}, \frac{21}{36}$

$\frac{5}{6}, \frac{7}{9}, \frac{3}{4}, \frac{7}{12}, \frac{1}{2}$

2) Find 3 equivalent fractions to $\frac{7}{8}$

$\frac{7}{8} \times\frac{2}{2} = \frac{14}{16}$

$\frac{7}{8} \times\frac{3}{3} = \frac{21}{24}$

$\frac{7}{8} \times\frac{4}{4} = \frac{28}{32}$

make small ÷

3) what is $\frac{18}{20}$ as s decimal?

$\frac{18}{20} \overset{\div 2}{=} \frac{9}{10} = 0.9$

4) Reduce $\frac{36}{90}$

$\frac{36}{90} \overset{\div 2}{=} \frac{18}{45} \overset{\div 9}{=} \frac{2}{5}$

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$\frac{5}{6}, \frac{7}{9}, \frac{3}{4}, \frac{7}{12}, \frac{1}{2}$

2) Find 3 equivalent fractions to $\frac{7}{8}$

$\frac{7}{8} \times \frac{2}{2} = \frac{14}{16}$ $\frac{7}{8} \times \frac{3}{3} = \frac{21}{24}$ $\frac{7}{8} \times \frac{4}{4} = \frac{28}{32}$

3) what is $\frac{18}{20}$ as s decimal?

$\frac{18}{20} \times \frac{5}{5} = \frac{90}{100} = 0.90$

$\frac{18 \div 2}{20 \div 2} = \frac{9}{10} = 0.9$

4) Reduce $\frac{36}{90}$

$\frac{36}{90} \div \frac{3}{3} = \frac{12}{30} \div \frac{2}{2} = \frac{6}{15} \div \frac{3}{3} = \frac{2}{5}$

$\frac{36}{90} \div \frac{18}{18} = \frac{2}{5}$

Grade 8 Unit 3: Fraction Day 1

Homework

Sheet 137

Solutions

1) For each fraction, write an equivalent fraction with denominator 10, 100, or 1000. Then, write the fraction as a decimal.

a) $\frac{4}{5} \overset{\times 2}{=} \frac{8}{10}$ = 0.8 **b)** $\frac{3}{50} \overset{\times 2}{=} \frac{6}{100}$ = 0.06 **c)** $\frac{7}{20} \overset{\times 5}{=} \frac{35}{100}$ = 0.35 **d)** $\frac{19}{200} \overset{\times 5}{=} \frac{95}{1000}$ = 0.095

2) Use Equivalent Fractions to order the fractions from least to greatest

$\frac{2}{3}, \frac{1}{2}, \frac{7}{24}, \frac{1}{12}, \frac{11}{12}$

$\frac{16}{24}, \frac{12}{24}, \frac{7}{24}, \frac{2}{24}, \frac{22}{24}$

The fraction now with the largest numerator is the biggest

$\frac{1}{12}, \frac{7}{24}, \frac{1}{2}, \frac{2}{3}, \frac{11}{12}$

Homework Solutions

Shed 137

3 a) $\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$

b) $\frac{3}{4} \times \frac{4}{4} = \frac{12}{16}$

c) $\frac{12}{10} \div \frac{2}{2} = \frac{6}{5}$

d) $\frac{30}{40} \div \frac{2}{2} = \frac{15}{20}$

e) $\frac{5}{5} = \frac{15}{15}$

f) $\frac{15}{10} \div \frac{5}{5} = \frac{3}{2}$

4 a) $\frac{1}{2}$ $\frac{1\times2}{2\times2} = \frac{2}{4}$, $\frac{1\times4}{2\times4} = \frac{4}{8}$, $\frac{1\times5}{2\times5} = \frac{5}{10}$

b) $\frac{3}{4}$ $\frac{3\times2}{4\times2} = \frac{6}{8}$, $\frac{3\times25}{4\times25} = \frac{75}{100}$, $\frac{3\times4}{4\times4}$ $\frac{12}{16}$

c) $\frac{7}{5}$ $\frac{7\times2}{5\times2} = \frac{14}{10}$, $\frac{7\times4}{5\times4} = \frac{28}{20}$, $\frac{7\times5}{5\times5} = \frac{35}{25}$

d) $\frac{1}{3}$ $\frac{1\times2}{3\times2} = \frac{2}{6}$, $\frac{1\times5}{3\times5} = \frac{5}{15}$, $\frac{1\times6}{3\times6} = \frac{6}{18}$

e) $\frac{3}{10}$ $\frac{9}{30}$, $\frac{6}{20}$, $\frac{30}{100}$

f) $\frac{4}{1}$ $\frac{8}{2}$, $\frac{24}{6}$, $\frac{12}{3}$

g) $\frac{2}{5}$ $\frac{4}{10}$, $\frac{6}{15}$, $\frac{8}{20}$

h) $\frac{4}{3}$ $\frac{8}{6}$, $\frac{12}{9}$, $\frac{16}{12}$

Homework

Solutions

5. Lowest terms

a) $\frac{3}{12} \div 3 = \frac{1}{4}$

b) $\frac{8}{20} \div 4 = \frac{2}{5}$

c) $\frac{6}{16} \div 2 = \frac{3}{8}$

d) $\frac{12}{64} \div 4 = \frac{3}{16}$ $\frac{12}{64} \div 2 \quad \frac{6}{32} \div 2 \quad \frac{3}{16}$

e) $\frac{24}{80} \div 2 = \frac{12}{40} \div 2$ $\frac{6}{20} \div 2 \quad \frac{3}{10}$ or $\frac{24}{80} \div 8 = \frac{3}{10}$

f) $3\frac{15}{48} \div 3$ $1\frac{5}{16}$

g) $\frac{10}{5} \div 5$ $\frac{2}{1}$

h) $\frac{75}{100} \div 5 = \frac{15}{20} \div 5$ $\frac{3}{4}$

Homework Solutions

$$\frac{75 \div 5}{100 \div 5} = \frac{15 \div 5}{20 \div 5} = \frac{3}{4}$$

$$\frac{48 \div 2}{60 \div 2} \quad \frac{24 \div 6}{30 \div 6} = \frac{4}{5}$$

$$\frac{48 \div 12}{60 \div 12} = \frac{4}{5}$$

Homework Solutions

6. 32 students, 12 do not like pizza

so 20 like pizza

Fraction $\frac{20}{32} \div 4 \div 4 \quad \frac{5}{8}$

7. a) 4 eggs as a fraction of a dozen $\frac{4}{12} = \frac{1}{3}$

b) 15 min as a fraction of an hour $\frac{15}{60} = \frac{1}{4}$

c) 25¢ as a fraction of a dollar $\frac{25}{100} \quad \frac{5}{20} = \frac{1}{4}$

Homework Solutions

8a) $\frac{5}{8} = \frac{20}{32}$

b) $\frac{9}{16} = \frac{36}{64}$

c) $\frac{1}{2} = \frac{15}{30}$

d) $\frac{3}{4} = \frac{9}{12}$

e) $\frac{7}{9} = \frac{21}{27}$

f) $\frac{20}{24} = \frac{5}{6}$

g) $\frac{3}{9} = \frac{12}{36}$

h) $\frac{7}{8} = \frac{42}{48}$

i) $\frac{2}{3} = \frac{10}{15}$

j) $\frac{6}{8} = \frac{12}{16}$

k) $\frac{5}{100} = \frac{1}{20}$

l) $\frac{45}{300} = \frac{15}{100}$

m) $\frac{2}{1} = \frac{32}{16}$

n) $\frac{8}{4} = \frac{4}{2}$

o) $\frac{5}{6} = \frac{20}{24}$

p) $\frac{1}{2} = \frac{10}{20}$

q) $\frac{6}{6} = \frac{36}{36}$

r) $\frac{3}{40} = \frac{15}{200}$

s) $\frac{3}{8} = \frac{30}{80}$

t) $\frac{4}{16} = \frac{2}{8}$ (×2, ×2)

u) $\frac{7}{1} = \frac{21}{3}$

v) $\frac{8}{14} = \frac{48}{84}$

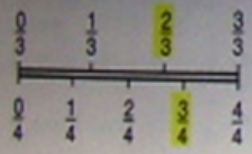
w) $\frac{5}{50} = \frac{10}{100}$

x) $\frac{2}{21} = \frac{6}{63}$

GREAT! YOU FIGURED IT OUT.

Lisette and Kim are the same height.
Lisette can jump $\frac{2}{3}$ of her height and Kim, $\frac{3}{4}$ of her height. Who can jump higher?

Number lines can be used to compare $\frac{2}{3}$ and $\frac{3}{4}$.

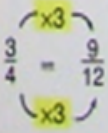


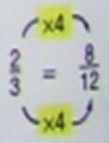
$\frac{3}{4}$ is to the right of $\frac{2}{3}$. $\frac{3}{4} > \frac{2}{3}$

Fractions can also be compared if they have the same denominator.

For $\frac{3}{4}$ and $\frac{2}{3}$, the LCM of the denominators is 12.

The LCM is used to write equivalent fractions.



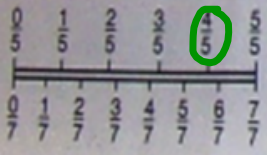


$\frac{9}{12} > \frac{8}{12}$, therefore $\frac{3}{4} > \frac{2}{3}$.

Kim can jump higher.

You Try

1. Which is greater, $\frac{4}{5}$ or $\frac{5}{7}$?



2. Find the LCM of the denominators (the least common denominator).

a. $\frac{2}{3}, \frac{1}{7}$ 21

b. $\frac{2}{5}, \frac{1}{2}$ 10

c. $\frac{1}{9}, \frac{1}{6}$ 18

d. $\frac{3}{4}, \frac{5}{6}$ 12

3. Copy and use > or < to make a true statement.

a. $\frac{3}{5} > \frac{2}{5}$ b. $\frac{7}{10} < \frac{9}{10}$ c. $\frac{1}{5} < \frac{3}{10}$ ($\frac{2}{10}$)

d. $\frac{5}{6} < \frac{3}{4}$ ($\frac{6}{8}$) e. $\frac{1}{4} < \frac{1}{3}$ (0.25 < 0.3) f. $\frac{3}{4} > \frac{7}{10}$ ($\frac{15}{20} > \frac{14}{20}$)

4. Arrange from least to greatest.

a. $\frac{3}{10}, \frac{1}{10}, \frac{9}{10}, \frac{7}{10}$

b. $\frac{7}{9}, \frac{18}{18}, \frac{4}{9}, \frac{11}{18}, \frac{1}{18}$ ($\frac{14}{18}, \frac{8}{18}$)

c. $\frac{1}{4}, \frac{2}{3}, \frac{1}{12}$

d. $\frac{2}{3}, \frac{3}{4}, \frac{1}{2}, \frac{5}{6}$

e. $\frac{11}{10}, \frac{6}{5}, \frac{9}{8}$

Solutions

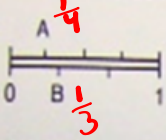
c) $\frac{3}{12}, \frac{8}{12}, \frac{1}{12}$

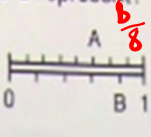
$\frac{1}{12}, \frac{1}{4}, \frac{2}{3}$

a) $\frac{1}{10}, \frac{3}{10}, \frac{7}{10}, \frac{9}{10}$

b) $\frac{1}{18}, \frac{11}{18}, \frac{7}{9}, \frac{4}{9}, \frac{18}{18}$

1. What fractions do A and B represent?

a. 

b. 

2. Which is the lesser fraction in each part of exercise 1?

3. Which is the greater fraction?

a. $\frac{4}{12}, \frac{5}{12}$ b. $\frac{3}{4}, \frac{5}{8}$ c. $\frac{12}{5}, \frac{9}{4}$

d. $\frac{7}{8}, \frac{3}{4}$ e. $\frac{15}{10}, \frac{15}{8}$ f. $\frac{2}{3}, \frac{7}{10}$

4. Which figure has the greater fraction of its area shaded?

a. 

b. 

5. Renata and Bonnie have the same mass. Renata can lift $\frac{4}{5}$ of her mass. Bonnie can lift $\frac{3}{4}$ of her mass. Who can lift the greater mass?

6. Find the LCM of the denominators.

a. $\frac{1}{2}, \frac{4}{5}, \frac{9}{10}$ b. $\frac{7}{8}, \frac{1}{3}, \frac{5}{4}$ c. $\frac{7}{6}, \frac{3}{8}, \frac{5}{3}$

7. Which is the least fraction?

a. $\frac{2}{3}, \frac{5}{6}, \frac{3}{4}$ b. $\frac{7}{8}, \frac{4}{5}, \frac{9}{10}$ c. $\frac{7}{4}, \frac{11}{7}, \frac{3}{2}$

8. Arrange from least to greatest.

a. $\frac{3}{4}, \frac{8}{4}, \frac{5}{4}$ b. $\frac{1}{3}, \frac{2}{5}, \frac{1}{10}$

c. $\frac{8}{5}, \frac{9}{5}, \frac{5}{5}$ d. $\frac{9}{4}, \frac{7}{2}, 2$

9. Of the 30 students in Mrs. Paolucci's class, 3 were absent. On the same day, 2 students were absent from Mr. Clark's class of 25. Which class had the greater fraction of students present?

10. A construction company is building Phase II of a housing development. Of the 30 homes in Phase I, 11 have three bedrooms. In Phase II, 17 of the 45 homes have three bedrooms. Which phase has the greater fraction of three-bedroom homes?

11. While playing golf, Neil lost 3 of his 10 golf balls. Gabrielle lost 6 of her 15 golf balls. Which player lost the lesser fraction of golf balls?

12. The Yost family spent $72 of their $264 weekly income on food. The Seymours spent $93 of their $330 weekly income on food.

a. How much did each family spend on food in a year?

b. Which family spent the greater fraction of their income on food?

Mixed Numbers and Improper Fractions

A mixed number contains a whole and a fraction Example: $8\frac{1}{7}$, $2\frac{5}{7}$

An improper fraction is when the numerator is greater than the denominator

Example: $\frac{15}{7}$, $\frac{9}{2}$

Homework

Sheet 173 # 1-3,5,6, 10,11

Mixed Fraction to Improper Fraction

To change a mixed number to an improper fraction, multiply the whole number by the denominator, then add the numerator to your answer. This will give the numerator for the improper fraction, and the denominator always stays the same.

Ex 1) $8\frac{1}{3}$ (×3, +1)

$= \frac{25}{3}$

http://www.youtube.com/watch?v=1BbNOwCQwB0

Ex 2) $2\frac{5}{7}$ (×7, +5)

$= \frac{19}{7}$

You try

a) $2\frac{3}{5} = \frac{13}{5}$

b) $7\frac{1}{5} = \frac{36}{5}$

whole number times denom, then add numerator → numerator stays same

Improper Fraction to Mixed Fraction

To change an improper fraction to a mixed number, divide the numerator by the denominator, the answer will be the whole number part of the mixed number, and the remainder will be the numerator of the mixed number. The denominator stays the same.

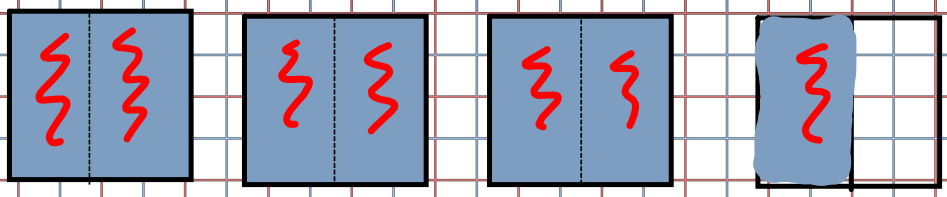
Example 1: $\frac{15}{7}$

$= 2\frac{1}{7}$

Example 2: $\frac{9}{2}$

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

Write as a mixed fraction then an improper fraction.



$3\frac{1}{2} = \frac{7}{2}$

Sheet 173

All questions

Attachments

Grade 8 Unit 3 Fractions WS 173 (Mixed & Improper).docx