

10-4-17

Aim: SWBAT review the basics of fractions.

HW: ???

Do Now: Let's correct hw

**Fraction:** A number that names part of a whole. Fractions also express ratios and division problems.

**Proper Fraction** vs.

- denominator is bigger

$$\frac{1}{4}$$

**Improper Fraction**

- numerator is bigger

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

$$\begin{array}{r} 2\frac{1}{2} \\ 2 \overline{)5} \\ \underline{-4} \\ 1 \end{array}$$

$$\frac{15}{6} \div 3 = \frac{5}{2}$$

**Equivalent Fractions:** Fractions that have the same value.

Create by multiplying.

$$\left(\frac{1}{4}\right) = \frac{2}{8} = \frac{3}{12}$$

Simplest Form

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

$$\frac{1}{4} \times \frac{3}{2}$$

$$2\frac{3}{6} = 2\frac{1}{2}$$

Create by dividing.

$$\frac{20}{12} = \frac{10}{6} = \left(\frac{5}{3}\right)$$

Simplest Form

**Converting improper fractions to mixed numbers.**

**Step 1:** If negative, bring negative over to the answer.

**Step 2:** Set up the division problem.

**Step 3:** Figure out the whole amount and the remainder.

**Step 4:** Write the remainder as a fraction.

1) Write  $\frac{7}{5}$  as a mixed number.

$\begin{array}{r} 5 \overline{) 7} \\ \underline{-5} \\ 2 \end{array}$	$\frac{1 \text{ R } 2}{\text{(Write using the remainder)}}$	$\frac{1 \frac{2}{5}}{\text{(Write the mixed \#)}}$
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2) Write  $\frac{9}{4}$  as a mixed number.

$\begin{array}{r} 4 \overline{) 9} \\ \underline{-8} \\ 1 \end{array}$	$\frac{2 \text{ R } 1}{\text{(Write using the remainder)}}$	$\frac{2 \frac{1}{4}}{\text{(Write the mixed \#)}}$
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3) Write  $\frac{12}{-7}$  as a mixed number.

$\underline{\hspace{2cm}}$	$\frac{-1 \frac{5}{7}}{\text{(Write the mixed \#)}}$	<del><math display="block">\frac{1 \frac{5}{7}}{\text{(Write the mixed \#)}}</math></del>
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*we never use negatives in long division ;)*

$$\begin{array}{r} 1 \\ 7 \overline{) 12} \\ \underline{-7} \\ 5 \end{array}$$

*the neg. always goes in the front of a mixed #.*

**Changing mixed numerals into improper fractions.**

**Step 1:** If negative, bring negative over to the answer.

**Step 2:** Multiply the whole number part and denominator and add the numerator to that answer.

**Step 3:** Keep the same denominator.

$$1 \frac{3}{8} = \frac{(1 \times 8) + 3}{8} = \frac{11}{8}$$

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

4)  $1 \frac{3}{11}$       $\frac{14}{11}$

2)  $3 \frac{2}{7}$       $\frac{23}{7}$

\* 5)  $-2 \frac{4}{7}$       $\frac{-18}{7}$

\* 3)  $-5 \frac{4}{9}$       $\frac{-49}{9}$

6)  $10 \frac{3}{5}$       $\frac{53}{5}$

$$\frac{-41}{9}$$

$$\frac{41}{9}$$

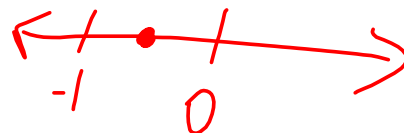
$$\frac{49}{9}$$

$$\frac{-49}{9}$$

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

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

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



Simplify.

$$\frac{16}{36} \div 2 = \frac{8}{18} \div 2 = \frac{4}{9}$$

Name \_\_\_\_\_

**Extra Practice**  
(Lessons 5-1 through 5-3)

**Fractions, Equivalent Fractions, and Simplest Form, Mixed Numerals**

Write each expression as a fraction. If the fraction names a whole number, state the whole number.

1.  $21 \div 2 = \frac{21}{2}$

2.  $8 \overline{)55} = \frac{55}{8}$

3.  $7 \div 9 = \frac{7}{9}$

4.  $36 \div 4 = \frac{36}{4} = 9$

5.  $9 \div 25 = \frac{9}{25}$

6.  $14 \overline{)70} = \frac{70}{14} = 5$

$\frac{16}{48} \div \frac{16}{16}$

$\frac{16}{48} \div \frac{2}{2} = \frac{8}{24} \div \frac{2}{2} = \frac{4}{12} \div \frac{2}{2} = \frac{2}{6} \div \frac{2}{2} = \frac{1}{3}$

Write each fraction in simplest form.

7.  $\frac{16 \div 16}{48 \div 16} = \frac{1}{3}$

\* 8.  $\frac{-45 \div 9}{99 \div 9} = \frac{-5}{11}$

\* 9.  $\frac{13 \div 13}{91 \div 13} = -\frac{1}{7}$

$2 \cdot 3 = 6$

10.  $\frac{30 \div 6}{42 \div 6} = \frac{5}{7}$  (GCF)

11.  $\frac{84 \div 4}{140 \div 4} = \frac{21 \div 7}{35 \div 7} = \frac{3}{5}$

12.  $\frac{96 \div 4}{112 \div 4} = \frac{24 \div 4}{28 \div 4} = \frac{6}{7}$

$\frac{30}{42} \div \frac{2}{2} = \frac{15}{21} \div \frac{3}{3} = \frac{5}{7}$

13.  $\frac{52 \div 26}{78 \div 26} = \frac{2}{3}$

\* 14.  $\frac{62 \div 2}{-66 \div 2} = \frac{31}{-33}$

15.  $\frac{15 \div 15}{90 \div 15} = \frac{1}{6}$

16.  $\frac{56 \div 28}{84 \div 28} = \frac{2}{3}$

17.  $\frac{105 \div 5}{175 \div 5} = \frac{21 \div 7}{35 \div 7} = \frac{3}{5}$

\* 18.  $\frac{-258}{387} = \frac{-86}{129} = \frac{-2}{3}$  (Handwritten:  $\div 129$ )

\* 19.  $\frac{-300 \div 75}{375 \div 75} = -\frac{4}{5}$

\* 20.  $\frac{-255 \div 15}{240 \div 15} = -\frac{17}{16}$

21.  $\frac{1320 \div 30}{1650 \div 30} = \frac{44 \div 11}{55 \div 11} = \frac{4}{5}$

Change each fraction to a whole number or a mixed numeral in simplest form.

\* 22.  $-\frac{17}{2} = -8 \frac{1}{2}$

23.  $\frac{24}{10} = 2 \frac{4}{10} = 2 \frac{2}{5}$

24.  $\frac{68}{17} = 4$

25.  $\frac{98}{32} = 3 \frac{2}{32} = 3 \frac{1}{16}$

\* 26.  $\frac{85}{15} = -5 \frac{10}{15} = -5 \frac{2}{3}$

\* 27.  $\frac{140}{-35} = -4$

\* 28.  $-\frac{162}{24} = -6 \frac{18}{24} = -6 \frac{3}{4}$

29.  $\frac{215}{43} = 5$

30.  $\frac{776}{64} = 12 \frac{8}{64} = 12 \frac{1}{8}$

Write 2 equivalent fractions for each of the following.

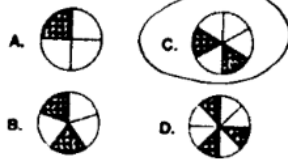
- 1)  $\frac{5}{20}$       $\frac{1}{4}$       $\frac{10}{40}$   
 2)  $\frac{50}{150}$       $\frac{15}{15}$       $\frac{1}{3}$   
 3)  $\frac{3}{9}$       $\frac{1}{3}$       $\frac{6}{18}$   
 4)  $\frac{45}{90}$       $\frac{1}{2}$       $\frac{90}{180}$

Circle the letter of the best choice.

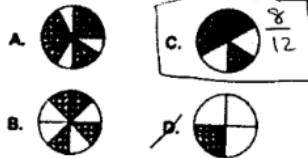
5) Pat shaded a fraction of this circle.



Which circle below shows an equivalent fraction?



6) Which figure is shaded to show  $\frac{2}{3}$ ?



7) What is the missing number?

$$\frac{2}{7} = \frac{\square}{21}$$

- A. 4  
 B. 5  
 C. 6  
 D. 7

8) The figure below shows  $\frac{3}{8}$  shaded.



Which fraction is equivalent to  $\frac{3}{8}$ ?

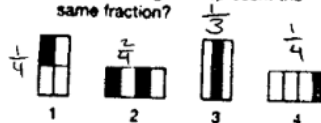
- A.  $\frac{1}{6}$      C.  $\frac{1}{2}$   
 B.  $\frac{1}{3}$      D.  $\frac{3}{3}$

9) What part of the figure is shaded?



- A.  $\frac{1}{2}$   
 B.  $\frac{2}{3}$   
 C.  $\frac{3}{4}$   
 D.  $\frac{5}{9}$

10) Each figure represents a fraction. Which two figures represent the same fraction?



- A. Rectangles 1 and 2  
 B. Rectangles 1 and 4  
 C. Rectangles 2 and 3  
 D. Rectangles 3 and 4

Rewrite each expression as a fraction in simplest form.

$$\cancel{\frac{9}{8}} \quad -2 \frac{7}{8} \quad -4 \frac{3}{5} \quad -3 \frac{1}{6}$$
$$\quad \quad \quad -\frac{23}{8} \quad \quad \quad -\frac{23}{5} \quad \quad \quad \frac{19}{-6}$$

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