Pre-Algebra

December 12 - 16

- Monday, December 12, 2011
- SW divide positive and negative fractions using multiplicative inverse

1. SW complete a review quiz upon entering the classroom
2. CW review student notes on how to divide fractions by multiplying by their reciprocal
3. SW work on class work assignment with a partner
4. SW begin homework if time permits

- Inverse Property of Mulitiplication

2 numbers whose product equals 1
* Fraction inverses. flip the fraction

- Find the multiplicative inverse of the following numbers.

1. -7/9
   $-\frac{7}{9} = -\frac{9}{7}$
2. 6 1/3 : 1st make it an improper fraction
   $6\frac{1}{3} = \frac{19}{3} = \frac{3}{19}$
3. 6/7
   $\frac{6}{7} = \frac{7}{6}$
4. 5 : Put whole numbers over 1
   $\frac{5}{1} = \frac{1}{5}$

Keep, Change, Flip

- Dividing Fractions
  1) Keep 1st Fraction
  2) Change ÷ to •
  3) Flip 2nd Fraction
  4) Follow Rules for Mult. Fractions.
- Divide by a fraction or a whole number.

1. 1/3 ÷ 7/15
   $\frac{1}{3} \div \frac{7}{15} = \frac{1}{1\cancel{3}} \cdot \frac{\cancel{15}^{5}}{7} = \frac{5}{7}$
2. 5/8 ÷ (-3/4) = $-\frac{5}{6}$
   $\frac{5}{8} \div \left(-\frac{3}{4}\right) = \frac{5}{\cancel{8}_{2}} \cdot \left(-\frac{\cancel{4}^{1}}{3}\right) = -\frac{5}{6}$
3. 3/4 ÷ 11 = Put whole numbers over 1
   $\frac{3}{4} \div \frac{11}{1} = \frac{3}{4} \cdot \frac{1}{11} = \frac{3}{44}$
4. -6/7 ÷ 12 = $-\frac{1}{14}$
   $-\frac{6}{7} \div \frac{12}{1} = -\frac{\cancel{6}^{1}}{7} \cdot \frac{1}{\cancel{12}_{2}} = -\frac{1}{14}$

- Divide by a mixed number
  1) Make fractions improper
  2) Follow previous rules
- Find each quotient.

1. 6 3/8 ÷ (-4 1/4)
   $6\frac{3}{8} \div \left(-4\frac{1}{4}\right) = \frac{51}{8} \div \left(-\frac{17}{4}\right) = \frac{\cancel{51}^{3}}{\cancel{8}_{2}} \cdot \left(-\frac{\cancel{4}^{1}}{\cancel{17}_{1}}\right) = -\frac{3}{2} = -1\frac{1}{2}$
2. -6 4/5 ÷ (-2 2/5)
   $-6\frac{4}{5} \div \left(-2\frac{2}{5}\right) = -\frac{34}{5} \div \left(-\frac{12}{5}\right) = -\frac{\cancel{34}^{17}}{\cancel{8}_{1}} \cdot -\frac{5}{\cancel{12}_{6}}$
   $\frac{17}{6} = 2\frac{5}{6}$

- Divide by an Algebraic Fraction
  1) Factor out variables
  2) Follow Previous Rules
- Find each quotient

1. $\frac{5ab}{6} \div \frac{10b}{7}$
   $\frac{5 \cdot a \cdot b}{6} \div \frac{10 \cdot b}{7} = \frac{\cancel{5 \cdot a \cdot b}^{1}}{6} \cdot \frac{7}{\cancel{10 \cdot b}_{2}} = \frac{1 \cdot a \cdot 1 \cdot 7}{6 \cdot 2 \cdot 1} = \frac{7a}{12}$
2. $\frac{mn^2}{4} \div \frac{m^2n}{8} = \frac{m \cdot n \cdot n}{4} \div \frac{m \cdot m \cdot n}{8} = \frac{\cancel{m \cdot n \cdot n}^{1}}{\cancel{4}_{1}} \cdot \frac{\cancel{8}^{2}}{\cancel{m \cdot m \cdot n}_{1}}$
   $\frac{1 \cdot 1 \cdot n \cdot 2}{1 \cdot 1 \cdot m \cdot 1} = \frac{2n}{1m}$ or $\frac{2n}{m}$

- Word Problems

1. A box of cereal contains 15 3/5 ounces. If a bowl holds 2 2/5 ounces of cereal, how many bowls of cereal are in one box?

$15\frac{3}{5} \div 2\frac{2}{5} = \frac{78}{5} \div \frac{12}{5} = \frac{78}{5} \cdot \frac{5}{12} = \frac{78}{12} = \frac{13}{2} = 6\frac{1}{2}$ bowls

- Class Work: Page 248; 2-16 even
- Homework: Page 248; 18-48 every third
- Read and take notes on pages 250-252

- Tuesday, December 13, 2011
- SW add and subtract like fractions

1. SW complete a review quiz upon entering the classroom
2. CW review student notes on adding and subtracting fractions with the same denominator
3. SW work on class work assignment with a partner
4. SW begin homework if time permits

- Like Fractions:

They have the same denominator

- Adding Fractions

1) Add the numerators
2) Put number over denominator (Do not add denominators)
3) Simplify

- Subtracting Fractions

1) Subtract the numerators
2)
3) As above

- Add and Subtract Like Fractions

1. 5/6 + 4/6

$\frac{5}{6} + \frac{4}{6} = \frac{5+4}{6} = \frac{9}{6} = 1\frac{3}{6} \div 3 = 1\frac{1}{2}$

2. 5/15 – 10/15

$\frac{5}{15} - \frac{10}{15} = \frac{5-10}{15} = \frac{-5}{15} \div 5 = -\frac{1}{3}$

3. 4/7 + (-6/7)

$\frac{4}{7} + \left(-\frac{6}{7}\right) = \frac{4+(-6)}{7} = \frac{-2}{7}$

4. 3/9 – 6/9

$\frac{3}{9} - \frac{6}{9} = \frac{3-6}{9} = \frac{-3}{9} \div 3 = -\frac{1}{3}$

- Add Mixed Numbers

You ~~dont~~ do not change into improper fractions

1. 3 3/5 + 7 1/5

1) Add integers 2) Add fractions

$3\frac{3}{5} + 7\frac{1}{5} = 3+7+\left(\frac{3}{5}+\frac{1}{5}\right) = 10\frac{4}{5}$

2. 6 4/10 + 9 1/10

$6\frac{4}{10} + 9\frac{1}{10} = 6+9+\left(\frac{4}{10}+\frac{1}{10}\right) = 15\frac{5}{10} \div 5 = 15\frac{1}{2}$

3. 3 4/9 + 8 2/9

$3\frac{4}{9} + 8\frac{2}{9} = 11\frac{6}{9} \div 3 = 11\frac{2}{3}$

- Subtract Mixed Numbers

Make into improper fractions

1. 2 3/8 – 1 5/8

$2\frac{3}{8} - 1\frac{5}{8} = \frac{19}{8} - \frac{13}{8} = \frac{19-13}{8} = \frac{6 \div 2}{8 \div 2} = \frac{3}{4}$

2. -8 6/11 – (-2 5/11)

$-8\frac{6}{11} - (-2\frac{5}{11}) = -8\frac{6}{11} + 2\frac{5}{11} = \frac{-94}{11} + \frac{27}{11} = \frac{-94+27}{11}$

$= \frac{-67}{11} = -6\frac{1}{11}$

3. 12 2/6 – 13 3/6

$12\frac{3}{6} - 13\frac{3}{6} = \frac{74}{6} - \frac{81}{6} = \frac{74-81}{6} = \frac{-7}{6} = -1\frac{1}{6}$

- Evaluate Algebraic Equations.

1) Rewrite replacing variables
2) Follow Previous Rules

- Solve each equation if a = 5 7/8, b = 9 3/8, c = 2 1/8

1. c – a

$2\frac{1}{8} - 5\frac{7}{8} = \frac{17}{8} - \frac{47}{8} = \frac{17-47}{8} = \frac{-30}{8} = -3\frac{6 \div 2}{8 \div 2} = -3\frac{3}{4}$

2. c + b

3. b - a

- Class Work: Page 252; 2-14 even
- Homework: Page 252-253; 16-31 every third, 34-46 even
- Read and take notes on pages 257-259

- Wednesday, December 14, 2011
- SW review concepts of adding, subtracting, multiplying, and dividing fractions

1. SW complete a review quiz upon entering the classroom
2. SW go on study island, grade 6, - Complete Pre-Test – 10 questions
3. Go to Compute with Fractions, read through the lesson taking notes on separate sheet of paper
4. Select 15 questions, work through the questions, showing work on your piece of paper. When you are finished, record your score on the piece of paper and turn in.
5. Begin Homework: Page 771; Lesson 5.4; 2-24 even, Lesson 5.5; 2-18 even

- Wednesday, December 14, 2011
- SW find the LCM of two or more numbers and find the LCD of tow or more fractions

1. SW complete a review quiz upon entering the classroom
2. CW review student notes on how to find the LCM of a set of numbers and the LCD of a set of fractions
3. SW work on class work assignment with a partner
4. SW begin homework if time permits

- Least Common Multiple
- Least Common Multiple of Monomials
- Least Common Denominator
- Compare and Order Fractions

- Find the LCM

1. 6,8

2. 120, 180

3. $24a^3b$, 30a

4. $12x^2y^2$, $6y^3$

- Find the LCD

1. 3/8 and 7/10

2. 7/8 and 13/20

3. 3/5 and 5/8

- Compare and Order Rational Numbers

1. $\frac{2}{3} \_\_\_ \frac{5}{9}$

2. $\frac{4}{5} \_\_\_ \frac{3}{7}$

3. $\frac{1}{6}, \frac{3}{20}, \frac{1}{10}, \frac{2}{7}$

4. -7 3/5, -6 4/5, -6 3/4, -7 1/4

- Class Work: Page 259; 2-12 even, 13

- Homework: Page 259; 14-48 even
- Read and take notes on pages 263-265

- Thursday, December 15, 2011

- SW review various mathematical concepts by completing various holiday worksheets for extra credit

1. Homework: None

- Friday, December 16, 2011

- SW review graphing coordinate points on a plane

- CW review plotting points on a graph.
- SW complete graph worksheet

- Homework: None

- Have a Great Winter Break
- See you January 3, 2012