3.7 Operations and Fractions

Tuesday, October 27, 2015 8:54 AM

Unit 3: Operations with Fractions Math 8

3.7 Dividing Mixed Numbers Name_____ _____

When dividing mixed numbers, change the mixed numbers to improper fractions first!

When they are changed, you divide by taking the reciprocal of the second fraction and multiply (flip it/reverse)

Example:

a) $1\frac{7}{8} \div 1\frac{1}{4}$ change to improper fractions:

$1 \times 8 + 7 = 15/8$

$1 \times 4 + 1 = 5/4$

Now solve! $\frac{15}{8} \div \frac{5}{4} = \frac{\cancel{15}^{3}}{2\cancel{8}} \times \frac{\cancel{4}^{1}}{\cancel{5}_{1}} = \frac{3}{2} \times \frac{1}{1} = \frac{3}{2} = \boxed{1\frac{1}{2}}$

You Try:

a) $6\frac{1}{8} \div 2\frac{3}{4} = \frac{49}{8} \div \frac{11}{4} = \frac{49}{2\cancel{8}} \times \frac{\cancel{4}^{1}}{11} = \frac{49}{22} = 2\frac{5}{22}$ ①

using common denominators. $\frac{49}{8} \div \frac{11 \times 2}{4 \times 2} = \frac{49 \cdot 22}{8 \cdot 8} = \frac{49}{\cancel{8}} \times \frac{\cancel{8}}{\cancel{22}} \rightarrow \frac{49}{22} = 2\frac{5}{22}$

so you can just Divide the numerators.

b) $2\frac{3}{7} \div 9\frac{1}{4} =$

$\frac{17}{7} \div \frac{37}{4} = \frac{17}{7} \times \frac{4}{37} = \frac{68}{259}$

c) Brittany has a summer job in a bakery. One day, she used $3\frac{3}{4}$ cups of chocolate chips to make chocolate chip cookies. A dozen (12) cookies needs $\frac{3}{4}$ of a cup chocolate chips. How many dozen chocolate chip cookies did she make that day?

$3\frac{3}{4} \div \frac{3}{4}$

$= \frac{\cancel{15}^{5}}{\cancel{4}_{1}} \times \frac{\cancel{4}^{1}}{\cancel{3}_{1}}$ or $\frac{15}{4} \div \frac{3}{4}$

$= 5$ she can make 5 dozen cookies.

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d) Jerry took $12\frac{1}{2}$ hours build a Pikachu costume for Halloween. He worked $1\frac{1}{2}$ hours each evening. How many evenings did it take Jerry to complete his costume?

$12\frac{1}{2} \div 1\frac{1}{2} = \frac{25}{2} \div \frac{3}{2} \Rightarrow \frac{25}{3} = 8\frac{1}{3}$ evenings.

common denominators.

$\approx$ 9 evenings.

$25 \div 3 = \frac{25}{3}$

#12, 13 on p. 145 are good examples

① 3.5-3.7 Review (Due in class) + ② Dividing worksheet

Assignment: ~~p145 # 4, 5, 8, 10, 11, 13, 18 + worksheet~~

Quiz Thursday (1-1) Friday (2-2) on dividing fractions and mixed numbers

8 questions.