Objectives:
- Students will memorize the multiplication table, as evidenced by them passing "minute quizzes."
- Students will divide positive integers to find the quotient and remainder, as evidenced by them completing a warm-up worksheet.
- Students will find equivalent fractions by multiplying the numerator and denominator of a fraction by the same number, as evidenced by them completing a homework assignment where they do so.
- Students will find equivalent fractions by dividing the numerator and denominator of a fraction by the same number, as evidenced by them completing a homework assignment where they do so.

Student Materials on Desk Corner:
- Homework #2-3
- Homework Checker
- Readiness Checker

Student Materials for Class:
- Homework Log
- Binder Paper
- Pencils

Teacher Materials:
- "Warm-up 2-4" for each student
- "Minute Quiz 2-4" for each student
- "Homework #2-3" answer key and grading roster for TA
- "Homework #2-4" handout for each student

Homework:
- Homework #2-4

Time	Activity
Before Bell	**DO NOW** As students enter the classroom, shake hands and give them a copy of the **warm-up**. Remind students that there is a minute quiz, so students need to be seated quietly with a pencil when the bell rings.
5 min	**MINUTE QUIZ, HOMEWORK COLLECTION, AND WARM-UP** **Minute Quiz** When the bell rings, quickly go around and put the **minute quiz** on each student's desk, facedown. Then, start everyone on the quiz at the same time and give everyone one minute. While students are working on the quiz, stamp the **readiness checkers** of students who were ready when the bell rang and had their readiness checkers out. **Homework Collection** Instruct the TA go around and collect **homework** and stamp **homework checkers**. Give the TA the answer key and have him or her grade the homework that was collected. **Warm-up** After the minute quiz, students should work on the **warm-up** while you take **attendance**.
30 min	**LESSON: EQUIVALENT FRACTIONS** **Notes** Follow the handwritten Cornell Notes. **Homework** Pass out the ""Homework #2-4" handout and have students write down the assignment on their homework logs. Remind students that you will be available after school for office hours.
45 min	**ALEKS** Students should continue with **ALEKS**. Use this student work time to **return graded homework**.

Numeracy   Name:
Minute Quiz 2-4 A   Date: Period:

Solve the following multiplication problems. You have exactly one minute!

7 • 5 =   1 • 2 =   1 • 9 =

6 • 8 =   3 • 3 =   4 • 10 =

6 • 12 =   4 • 3 =   7 • 2 =

7 • 11 =   6 • 10 =   4 • 8 =

Name:
Date: Period:

Solve the following multiplication problems. You have exactly one minute!

9 • 9 =   8 • 7 =   2 • 8 =

6 • 5 =   1 • 9 =   9 • 7 =

7 • 11 =   5 • 8 =   12 • 6 =

2 • 8 =   3 • 7 =   2 • 4 =

Numeracy
Minute Quiz 2-4 C

Name:
Date: Period:

Solve the following multiplication problems. You have exactly one minute!

2 • 12 =   9 • 8 =   11 • 11 =

10 • 1 =   5 • 5 =   9 • 1 =

2 • 4 =   8 • 9 =   9 • 7 =

12 • 8 =   3 • 6 =   3 • 2 =

Solve the following division problems by finding the quotient and the remainder.

1) 72 ÷ 12   2) 27 ÷ 3   3) 132 ÷ 22   4) 99 ÷ 22

5) 672 ÷ 84   6) 778 ÷ 79   7) 4278 ÷ 62   8) 4229 ÷ 57

Tom Wong
10/13/08
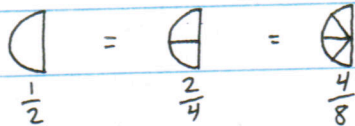
Equivalent Fractions

Section → Introduction

equivalent fractions   Equivalent fractions are equal, even though they look different.

Ex: $\frac{1}{2}$, $\frac{2}{4}$, $\frac{4}{8}$ are equivalent fractions

$$\frac{1}{2} \qquad \frac{2}{4} \qquad \frac{4}{8}$$

Section → Important Rule

We can find equivalent fractions using the following important rule:

★ When you multiply or divide both the top   ★
and bottom by the same number, the fraction
stays the same.

Section → Examples

Ex: Start with $\frac{1}{3}$. Multiply the top and bottom by 2 to
find an equivalent fraction.

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

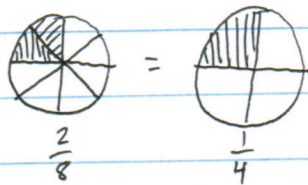$$\frac{1}{3} \qquad = \qquad \frac{2}{6}$$

YT: $\frac{3}{4}$; multiply top & bottom by 5

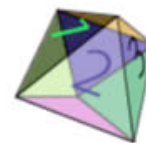$$\frac{3}{4} = \frac{3 \cdot 5}{4 \cdot 5} = \frac{15}{20}$$

Ex: Start with $\frac{2}{8}$. Divide the top and bottom by 2 to find an equivalent fraction.

$$\frac{2}{8} = \frac{2 \div 2}{8 \div 2} = \frac{1}{4}$$

$\frac{2}{8}$ $\frac{1}{4}$

YT: $\frac{10}{15}$; divide top & bottom by 5

$$\frac{10}{15} = \frac{10 \div 5}{15 \div 5} = \frac{2}{3}$$
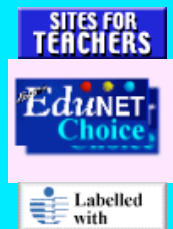
Equivalent Fractions

Equivalent Fractions have the same value, even though they may look different.

These fractions are really the same:
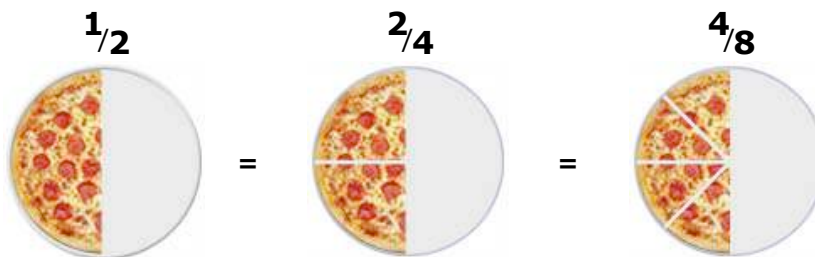
$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

Why are they the same? Because when you multiply or divide **both** the top and bottom by the same number, the fraction keeps it's value. The rule to remember is:

**What you do to the top of the fraction
you must also do to the bottom of the fraction !**

So, here is why those fractions are really the same:

× 2   × 2

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

× 2   × 2

And visually it looks like this:

$\frac{1}{2}$ $\frac{2}{4}$ $\frac{4}{8}$

 = =

Here are some more equivalent fractions, this time by dividing:

÷ 3   ÷ 6

$$\frac{18}{36} = \frac{6}{12} = \frac{1}{2}$$

$$\div 3 \qquad \div 6$$

If we keep dividing until we can't go any further, then we have **simplified** the fraction (made it as simple as possible).

Important:

- The top and bottom of the fraction must always be a whole number.
- So, the number you pick to divide by must always divide evenly (ie no remainders) for both the top and bottom numbers.
- You only multiply or divide, never add or subtract, to get an equivalent fraction.

A Chart of Fractions

We also have a chart of fractions with each row giving you examples of equivalent fractions.

here's more ...
- Introduction to Fractions
- Simplifying Fractions
- Adding Fractions
- Subtracting Fractions
- Dividing Fractions
- Multiplying Fractions
- Fractions Index

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For each problem, follow the instructions to find an equivalent fraction.

Ex.) $\dfrac{1}{2}$; multiply top & bottom by 3

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

Ex.) $\dfrac{15}{40}$; divide top & bottom by 5

$$\frac{15}{40} = \frac{15 \div 5}{40 \div 5} = \frac{3}{8}$$

1) $\dfrac{1}{2}$; multiply top & bottom by 2

2) $\dfrac{4}{16}$; divide top & bottom by 2

3) $\dfrac{1}{2}$; multiply top & bottom by 4

4) $\dfrac{4}{16}$; divide top & bottom by 4

5) $\dfrac{6}{7}$; multiply top & bottom by 5

6) $\dfrac{14}{49}$; divide top & bottom by 7

7) $\dfrac{7}{9}$; multiply top & bottom by 2

8) $\dfrac{12}{18}$; divide top & bottom by 6

9) $\dfrac{1}{5}$; multiply top & bottom by 6

10) $\dfrac{2}{10}$; divide top & bottom by 2

11) $\dfrac{3}{4}$; multiply top & bottom by 9

12) $\dfrac{50}{80}$; divide top & bottom by 10