LESSON F-3 IDENTIFYING FRACTIONS

A. The whole is a circle.

B. Yes.

C. The circle has been divided into two equal parts.

D. The whole is a circle.

E. No

F. It is not divided in equal parts.

G. The whole is a triangle.

H. No

I. It is not divided in equal parts.

J. The whole is a triangle.

K. Yes

L. It is divided in equal parts.

M. The whole is a triangle.

N. Yes.

O. It is one equal part.

P. The whole is a rectangle.

Q. Yes.

R. It is broken into equal parts.

S. The whole is a rectangle.

T. No.

U. It is not broken into equal parts.

V. The whole is a rectangle.

Fractions Answer Guide

W. Yes.

X. It is broken into equal parts.

Y. The whole is a rectangle.

Z. Yes.

AA. It is broken into equal parts.

AB. The whole is a rectangle.

AC. Yes.

AD. It is broken into equal parts.

AE. The whole is a circle.

AF. Yes.

AG. It is broken into equal parts.

AH. The whole is a wavy rectangle.

AI. Yes.

AJ. It is one equal part.

AK. The whole is a heart.

AL. No

AM. It is not broken into equal parts.

AN. The whole is a triangle.

AO. No.

AP. It is not broken into equal parts.

AQ. The whole is a line.

AR. Yes.

AS. It is broken into equal parts.

Fractions Answer Guide

AT. The whole is a piece of film.

AU. No.

AV. It is not broken into equal parts.

AW. The whole is a triangle.

AX. No.

AY. It is not broken into equal parts.

AZ. The whole is a circle.

BA. Yes.

BB. It is broken into equal parts.

Fractions Answer Guide

LESSON F-20 NAMING FRACTIONS

A. two fifths   B. three twenty-fourths   C. four ninths   D. nine tenths

Fractions Answer Guide

LESSON F-21 WRITING THE FRACTION

A. $\dfrac{1}{2}$ B. $\dfrac{6}{9}$ C. $\dfrac{0}{10}$

D. i. 3/4 ii. 5/8 ii. 8/5 iv. 2/10 v. 1/5000

vi. 10/71 vii. 1/n viii. n/k

Fractions Answer Guide

LESSON F-49 FRACTION EQUIVALENCE
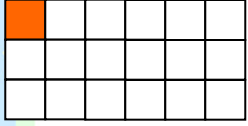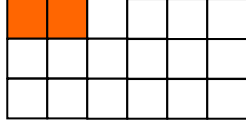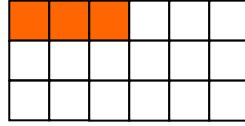
$\dfrac{1}{18}$ **<** $\dfrac{1}{9}$ **<** $\dfrac{1}{6}$ **<** $\dfrac{1}{3}$
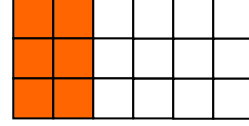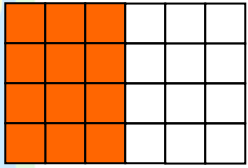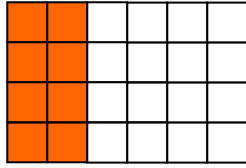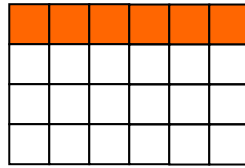
$\dfrac{1}{2}$ **>** $\dfrac{1}{3}$ **>** $\dfrac{1}{4}$ **>** $\dfrac{1}{6}$
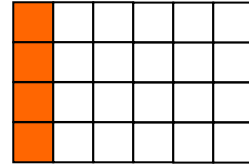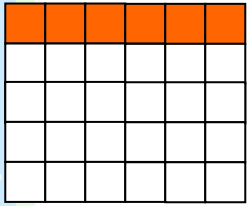
$\dfrac{1}{5}$ **>** $\dfrac{1}{10}$ **>** $\dfrac{1}{15}$ **>** $\dfrac{1}{30}$

$\dfrac{1}{6}$ **<** $\dfrac{2}{6}$ **<** $\dfrac{3}{6}$ **<** $\dfrac{4}{6}$

Fractions Answer Guide
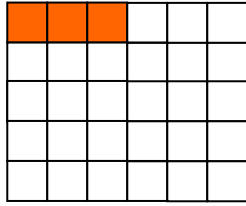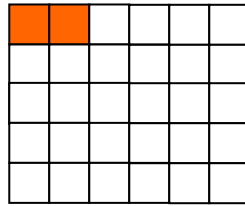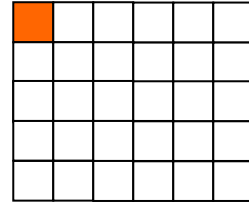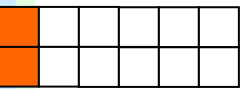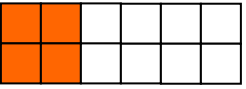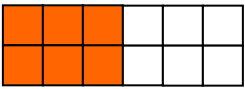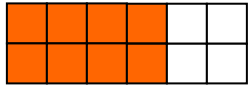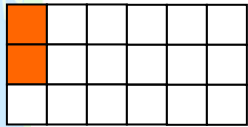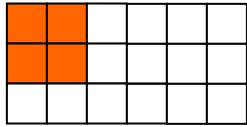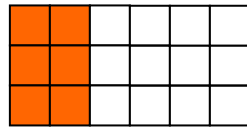
$$\frac{1}{9} \quad < \quad \frac{2}{9} \quad < \quad \frac{3}{9} \quad < \quad \frac{4}{9}$$
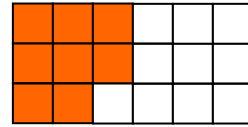
$$\frac{4}{4} \quad > \quad \frac{3}{4} \quad > \quad \frac{2}{4} \quad > \quad \frac{1}{4}$$

$$\frac{8}{8} \quad > \quad \frac{6}{8} \quad > \quad \frac{4}{8} \quad > \quad \frac{2}{8}$$

Fractions Answer Guide
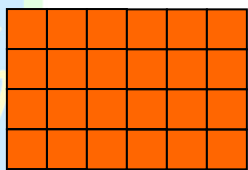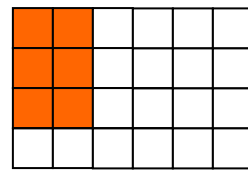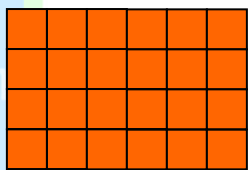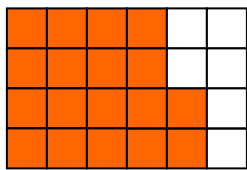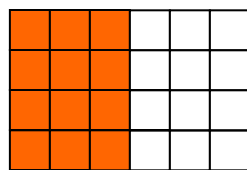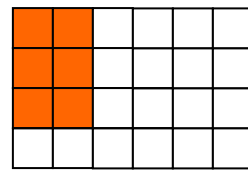
LESSON F-59 FRACTION ADDITION: SAME DENOMINATOR (NINTHS)

D. 2

E. $\dfrac{1}{9} + \dfrac{1}{9} = \dfrac{2}{9}$

I.

$$\frac{0}{9} + \frac{1}{9} = \frac{1}{9} \qquad \frac{0}{9} + \frac{2}{9} = \frac{2}{9} \qquad \frac{0}{9} + \frac{3}{9} = \frac{3}{9}$$

$$\frac{0}{9} + \frac{4}{9} = \frac{4}{9} \qquad \frac{0}{9} + \frac{5}{9} = \frac{5}{9} \qquad \frac{0}{9} + \frac{6}{9} = \frac{6}{9}$$

$$\frac{0}{9} + \frac{7}{9} = \frac{7}{9} \qquad \frac{0}{9} + \frac{8}{9} = \frac{8}{9} \qquad \frac{0}{9} + \frac{9}{9} = \frac{9}{9}$$

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

$$\frac{1}{9} + \frac{5}{9} = \frac{6}{9} \qquad \frac{1}{9} + \frac{6}{9} = \frac{7}{9} \qquad \frac{1}{9} + \frac{7}{9} = \frac{8}{9}$$

$$\frac{1}{9} + \frac{8}{9} = \frac{9}{9} \qquad \frac{2}{9} + \frac{3}{9} = \frac{5}{9} \qquad \frac{2}{9} + \frac{4}{9} = \frac{6}{9}$$

$$\frac{2}{9} + \frac{5}{9} = \frac{7}{9} \qquad \frac{2}{9} + \frac{6}{9} = \frac{8}{9} \qquad \frac{2}{9} + \frac{7}{9} = \frac{9}{9}$$

Fractions Answer Guide

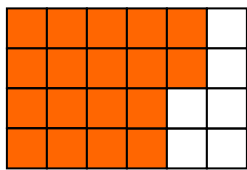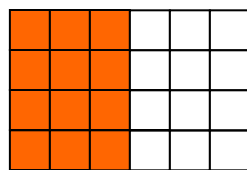$$\frac{3}{9} + \frac{4}{9} = \frac{7}{9} \qquad \frac{4}{9} + \frac{5}{9} = \frac{9}{9} \qquad \frac{2}{9} + \frac{2}{9} = \frac{4}{9}$$

$$\frac{3}{9} + \frac{3}{9} = \frac{6}{9} \qquad \frac{4}{9} + \frac{4}{9} = \frac{8}{9} \qquad \frac{5}{9} + \frac{4}{9} = \frac{9}{9}$$

$$\frac{0}{9} + \frac{1}{9} = \frac{1}{9} \qquad \frac{1}{9} + \frac{6}{9} = \frac{7}{9} \qquad \frac{6}{9} + \frac{0}{9} = \frac{6}{9}$$

$$\frac{1}{9} + \frac{2}{9} = \frac{3}{9} \qquad \frac{3}{9} + \frac{2}{9} = \frac{5}{9} \qquad \frac{1}{9} + \frac{1}{9} = \frac{2}{9}$$

Fractions Answer Guide

LESSON F-100 FRACTIONS OF AN HOUR

B. 40 minutes; $\dfrac{2}{3} \times 60 = \dfrac{120}{3} = 40$ C. 80 minutes; $\dfrac{4}{3} \times 60 = \dfrac{240}{3} = 80$

D. 36 minutes; $\dfrac{3}{5} \times 60 = \dfrac{180}{5} = 36$ E. 50 minutes; $\dfrac{5}{6} \times 60 = \dfrac{300}{6} = 50$

F. 18 minutes; $\dfrac{3}{10} \times 60 = \dfrac{180}{10} = 18$ G. 30 minutes; $\dfrac{5}{10} \times 60 = \dfrac{300}{10} = 30$

H. 42 minutes; $\dfrac{7}{10} \times 60 = \dfrac{420}{10} = 42$ I. 54 minutes; $\dfrac{9}{10} \times 60 = \dfrac{540}{10} = 54$

J. 5 minutes; $\dfrac{1}{12} \times 60 = \dfrac{60}{12} = 5$ K. 25 minutes; $\dfrac{5}{12} \times 60 = \dfrac{300}{12} = 25$

L. 35 minutes; $\dfrac{7}{12} \times 60 = \dfrac{420}{12} = 35$ M. 55 minutes; $\dfrac{11}{12} \times 60 = \dfrac{660}{12} = 55$

Fractions Answer Guide

LESSON F-130 FRACTION SEQUENCES

A. 5/5, 6/5, 7/5; add one-fifth

B. 10/7, 7/7, 4/7; subtract 3/7

C. 16/13, 32/13, 64/13; multiply by 2

D. Add 1 to both numerator and denominator, then reduce

Fractions Answer Guide

LESSON F-132 FRACTION STRIPS

A. $\dfrac{3}{12} + \dfrac{4}{12} + \dfrac{5}{12} = 1$ B. $\dfrac{1}{4} + \dfrac{1}{3} + \dfrac{5}{12} = 1$ C. $\dfrac{3}{12} + \dfrac{5}{12} = 1$

D. $\dfrac{1}{4} + \dfrac{5}{12} = 1$ E. $1 - \dfrac{3}{12} = \dfrac{9}{12}$ F. $1 - \dfrac{1}{4} = \dfrac{3}{4}$

Fractions Answer Guide

LESSON F-140 LEAST COMMON DENOMINATOR USING PRIME FACTORS

A.   The least common denominator in this example is 20 since no smaller denominator shows up in both lists of equivalent fractions for the two fractions.

E. "Using prime factors, determine the LCD for the following. Show the prime factors of each number and the prime factors for the LCD:"

i. $3 = 3, 5 = 5, \text{LCD} = 3 \times 5 = 15$

ii. $4 = 2 \times 2, 6 = 2 \times 3, \text{LCD} = 2 \times 2 \times 3 = 12$

iii. $3 = 3, 2 = 2, \text{LCD} = 3 \times 2 = 6$

iv. $2 = 2, 3 = 3, \text{LCD} = 2 \times 3 = 6$

v. $1{,}000 = 2 \times 2 \times 2 \times 5 \times 5 \times 5, 500 = 2 \times 2 \times 5 \times 5 \times 5,$
        $\text{LCD} = 2 \times 2 \times 2 \times 5 \times 5 \times 5 = 1{,}000$

vi. $110 = 2 \times 5 \times 11, 1{,}210 = 2 \times 5 \times 11 \times 11, \text{LCD} = 2 \times 5 \times 11 \times 11 = 1{,}210$

Fractions Answer Guide

LESSON F-155 MULTIPLYING FRACTIONS: CONCRETE

A.   i.   true   ii.   12   iii.   twelfths

     iv.   two   v.   2/12 or 1/6   vi. $\dfrac{1}{4} \times \dfrac{2}{3} = \dfrac{1 \times 2}{4 \times 3} = \dfrac{2}{12} = \dfrac{1}{6}$

B. Using ShillerMath Graphsheets, repeat step A for the following fraction multiplications:

Fraction 1	×	Fraction 2	Green parts	Total parts	Product
$\dfrac{2}{5}$	×	$\dfrac{1}{2}$	2	10	$\dfrac{2}{10} = \dfrac{1}{5}$
$\dfrac{2}{3}$	×	$\dfrac{1}{4}$	2	12	$\dfrac{2}{12} = \dfrac{1}{6}$
$\dfrac{1}{3}$	×	$\dfrac{3}{4}$	3	12	$\dfrac{3}{12} = \dfrac{1}{4}$
$\dfrac{5}{6}$	×	$\dfrac{1}{2}$	5	12	$\dfrac{5}{12}$

C. In the first one, we could have used only 5 parts, shading 2, and then making half of those green.

Fractions Answer Guide