

# Arithmetic

# 55 Topics

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CLOSE

Aligned with the Core Curriculum  
Grade-1 through Grade-7

# Special Features

- Help button on every screen
- Send your grades and progress to your teacher by email
- Step-by-step instruction that guides you through problem solving
- Lots of word problems to challenge you
- Visual explanations of concepts

# Special Features

- 21<sup>st</sup> Century Skills
  - Credit card and loan
  - Family budget and tax
- Application in Science and Engineering
  - Computer science
  - Mechanical and Electrical Engineering
  - Rockets
  - Chemistry
  - Physics

# Grading Student's Work

Student emails score to teacher.

Email Setup

Enter your gmail Username  
as myusername@gmail.com

Enter your gmail Password

Enter your teacher's email address

Enter your name

Numbers

# *Numbers*

- Grid Beginner
- Grid Advanced
- Neighbors
- Count in Steps
- Smaller/Bigger

Start

Email  
Score

Print  
Score

Close

*Score*

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# Basic Operations

Basic Arithmetic Operations

**Choose Problem**

- Addition
- Subtraction
- Multiplication
- Division
- More Additions
- Division with Remainder

Select

Email Score    Print Score    Score

Close    (c) Ambar K. Mitra  
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Remainders and Fractions

Division with Remainder

Show

$$33 \div 9 = 3 \text{ R } 6$$

Quotient 3

Remainder 6

Help

Email Score

Print Score

Close

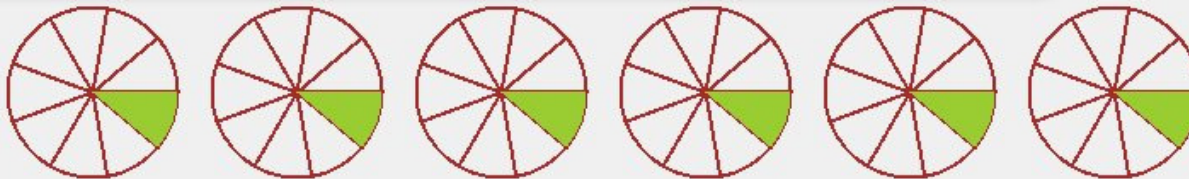
Score 4

Divide 33 objects among 9 people.

Each person gets 3 whole objects.  
The remaining 6 objects are divided  
among 9 people.



Each person gets 3 whole and this fraction



Each of the remaining 6 objects are cut into 9 pieces



# Addition Subtraction with Regrouping

Subtraction

8	0	5
6	5	6

--	--	--

- I have enough ones, I do not need to borrow from the tens
- I do not have enough ones, I need to borrow from the tens

Check

Email Score

Print Score

Score

Close

# Addition Subtraction with Regrouping

Subtraction

7	9	15
6	5	6

--	--	--

- I have enough tens, I do not need to borrow from the hundreds
- I do not have enough tens, I need to borrow from the hundreds

Check

Email Score

Print Score

Score

Close

# Visual Long Multiplication

MULTIPLY

1 1  
by  
3 7

$$\begin{array}{r} 36 \text{ Superfast} \\ \times 24 \text{ Multiplication} \\ \hline 600 \text{ (} 20 \times 30 = 600 \text{)} \\ 120 \text{ (} 20 \times 6 = 120 \text{)} \\ 120 \text{ (} 4 \times 30 = 120 \text{)} \\ + 24 \text{ (} 4 \times 6 = 24 \text{)} \\ \hline 864 \end{array}$$

1 times 3

3 hundreds

3 times 1 + 1 times 7

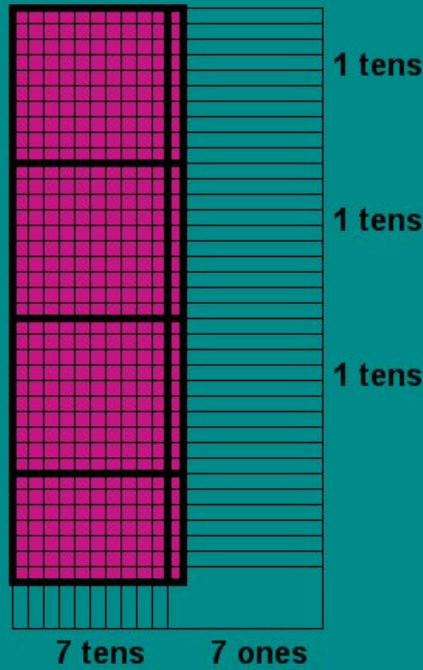
10 tens

1 times 7

7 ones

Answer

407



# Long Division

Score

Email Score

Print Score

Close

Help

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Advanced

Next

How many times does 77 go into 121? Enter zero if it does not.

)

Check

Understanding...

# Visual Fraction Subtraction

SUBTRACT

3

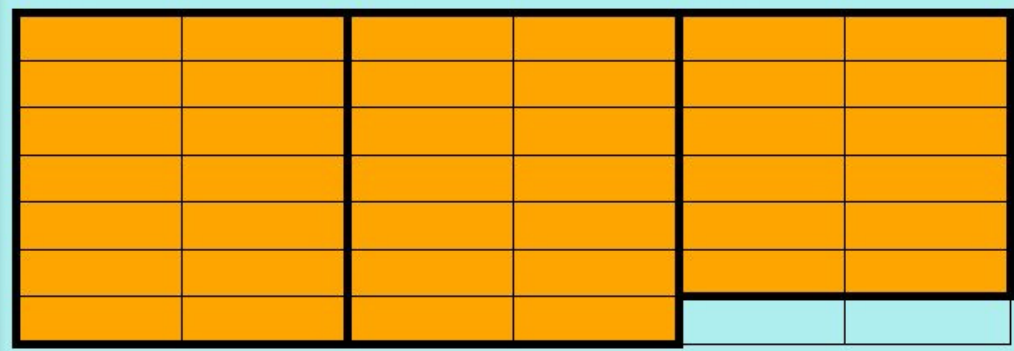
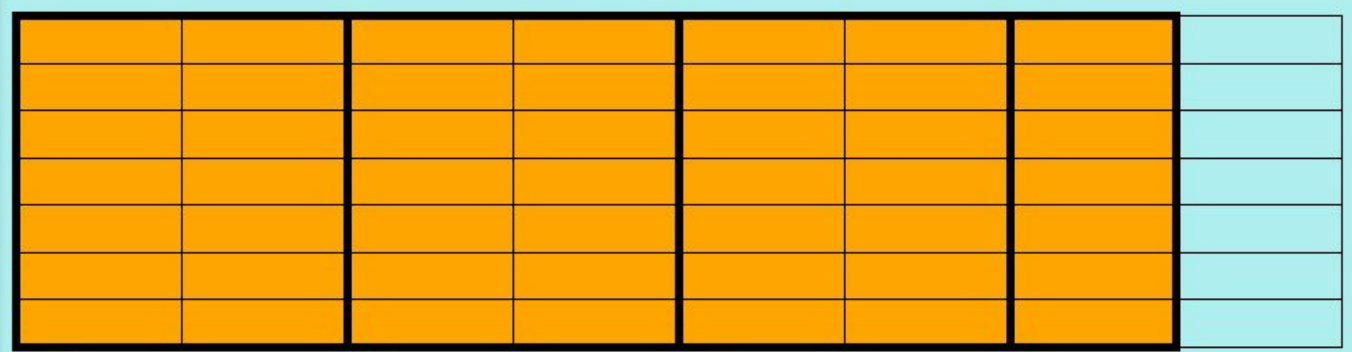
take away

2

Each tile is 1/14

Remaining 9 tiles.

Answer



Understanding...

## Visual Fraction Multiplication

MULTIPLY

2

by

2

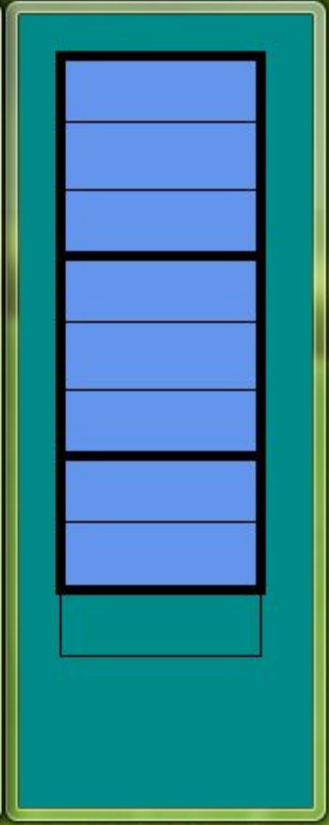
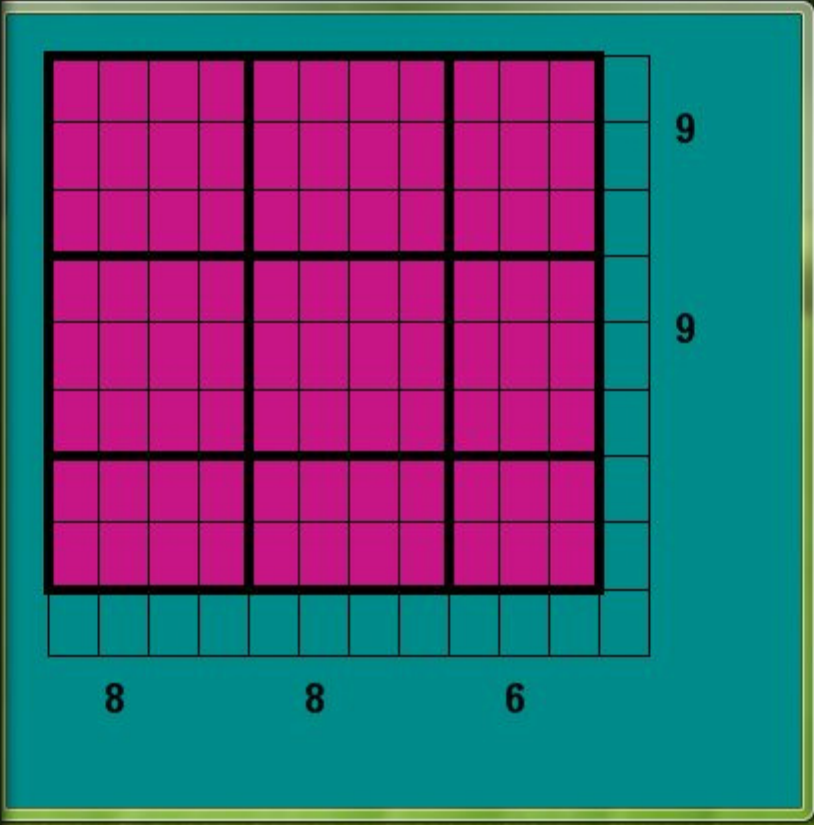
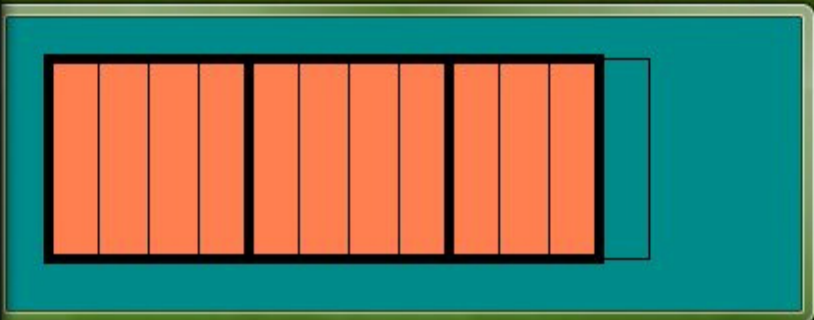
4 Whole squares

AND

40 tiles

Each tile is 1/12

Answer



Understanding...

### Visual Fraction Division

DIVIDE

1

by

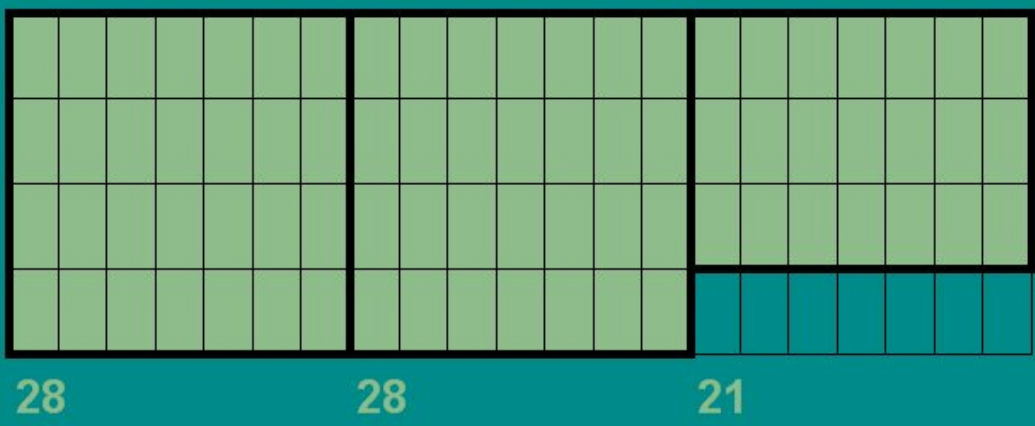
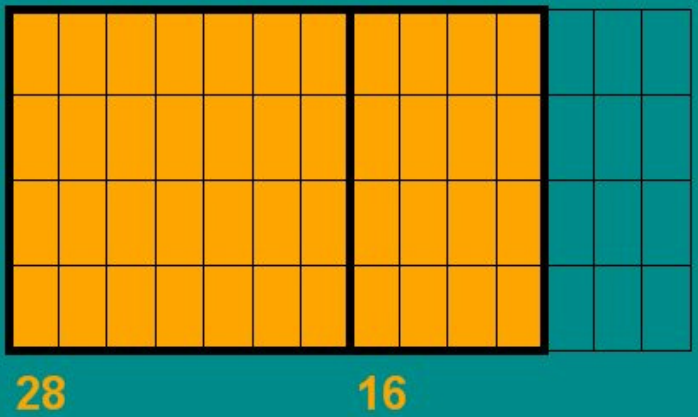
2

How many green floors can we fill with orange tiles?

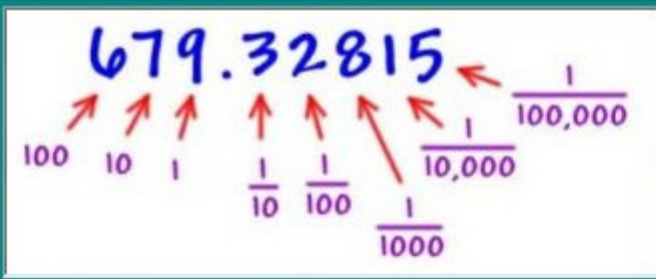
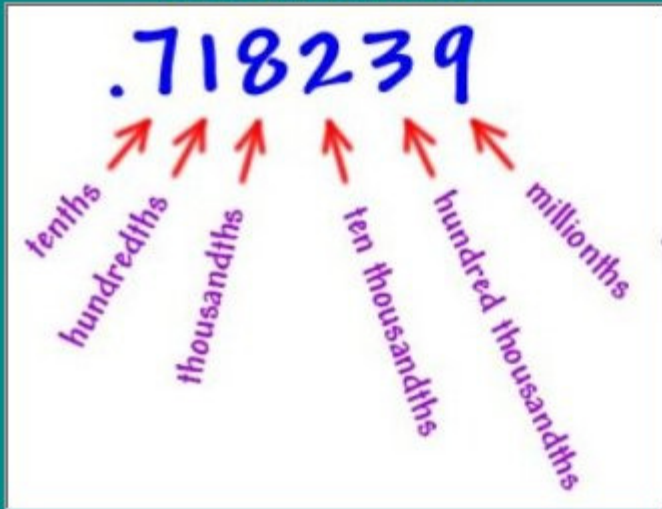
Orange tiles = 44

Green spaces = 77

Answer



### Decimal Numbers



**Rounding Rule**  
Find the digit Look at right  
Five or higher Add one more  
Four or less Let it rest

#### Place Value

**0.4766**

Hundreds	<input data-bbox="1050 795 1150 852" type="text" value="?"/>	Tenths	<input data-bbox="1470 795 1570 852" type="text" value="?"/>
Tens	<input data-bbox="1050 868 1150 925" type="text" value="?"/>	Hundredths	<input data-bbox="1470 868 1570 925" type="text" value="?"/>
Ones	<input data-bbox="1050 941 1150 998" type="text" value="?"/>	Thousandths	<input data-bbox="1470 941 1570 998" type="text" value="?"/>
		Ten Thousandths	<input data-bbox="1470 1015 1570 1071" type="text" value="?"/>

Check

Score

Email Score

Print Score

Close

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## Fraction to Decimal

Write the fraction

6262

51

as a decimal number rounded to the nearest hundredths

Score

Help

Email Score

Print Score

Close

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$$\begin{array}{r}
 51 \overline{) 6262.00} \\
 \underline{0122.7} \\
 6262.00 \\
 \underline{0} \\
 62 \\
 \underline{51} \\
 116 \\
 \underline{102} \\
 142 \\
 \underline{102} \\
 400 \\
 \underline{357} \\
 430 \\
 \underline{\phantom{00}} \\
 \phantom{00} \\
 \underline{\phantom{00}} \\
 \phantom{00}
 \end{array}$$

How many times does 51 go into 430? Enter zero if it does not.

Check



## Decimal Word Problems

Help

Multiply

Divide

Email  
Score

Print  
Score

Score

Close

Your annual cost of electricity is \$1800.00. Out of this amount a fraction of 0.2 is spent in running the kitchen (fridge, oven, dishwasher, microwave). You want to install solar power equipment at a cost of \$4000.00 to run the kitchen. State of Iowa will give you a reward of \$40.00 per year for being a conscious citizen. How many years would it take for you to recover the cost of the solar equipment?

Answer

?

Check

## Percent Word Problems

A bottle of ice-tea costs \$1.19 which is 10% more than the price of a bottle of grape juice. What is the price of a bottle of grape juice?

Help

Calculator

Email  
Score

Print  
Score

Answer

Check

Score

Close

# *Simple and Compound Interest*

- Simple Interest
- Compound Interest

Select

Simple Interest Help

Compound Interest Help

Email  
Score

Print  
Score

Score

Close

Calculator

# *Simple and Compound Interest*

Simple Interest Help

Compound Interest Help

Email  
Score

Print  
Score

Score

Close

Calculator

## Compound Interest

Find the principal when the amount is \$699.84, interest rate is 8%, and the period is 2 years.

Type answer with 2 places of decimal

Answer

Check

Ratio-Proportion

# Ratio Proportion

Combined

Help

If 24 horses eat 9 bushels in 21 days, for how many days will 33 bushels feed 7 horses?

Answer

Check

Email Score

Print Score

Score

Close

Speed and Distance

- Speed Problems**
- Train Problems**
- Boats/Airplanes**

Select

Speed  
Help

Train  
Help

Boats/Airplanes Help

Email  
Score

Print  
Score

Close

# *Speed Problems*

Score

Roots

## Root Problems

- Simple Square Root
- Advanced Square Root
- Higher Root

Select

Calculator

Score

Help Square Root

Help Higher Roots

Email  
Score

Print  
Score

Close

## *Volume of Common Solids*

**Score**

Email  
Score

Print  
Score

Help

Close

Calculator

For a cone, the volume is 24 cubic feet and the area of the curved surface is 8 square feet. Find the area of the base of the cone.

**Answer**

Check



# Angles

- Intersecting Lines
- Triangles
- Parallel Lines
- Pythagorus

Select

Email  
Score

Print  
Score

Help

Calculator

*Score*

Close

# Order of Operations

Score

Help

Email  
Score

Print  
Score

Close

Advanced Order of Operations

$$3 \times \sqrt{(16 + 9)}$$

Answer

Check

Calculator



# Equations

Score

Advanced Equations

$$\begin{aligned}7X + Y &= 53 \\9X + 2Y &= 71\end{aligned}$$

 $X =$ 

Check

Calculator

Help

Email  
ScorePrint  
Score

Close

Write Y in terms of X as  $Y = \dots$  from the first equation.  
Then, substitute for Y in the second equation.  
Find X.

## *Two Problems in Trigonometry*

Score

Email  
ScorePrint  
Score

For  $L = 350$  feet,  $\theta = 30$  degrees, and  $\phi = 32$  degrees, find the height of a mountain.

Help

Close

Calculator

**Answer**

Check

## *Statistics - 1*

- Discrete Data
- Z - score
- Frequency Distribution
- Probability Distribution

Select

Email  
Score

Print  
Score

Calculator

Close

*Score*

## *Statistics-2*

- Binomial Distribution
- Normal Distribution
- Binomial Problems using Normal Distribution

Select

Email  
Score

Print  
Score

*Score*

Close