PLACE VALUE CHART

NAME: _____

CLASS: _____

Billions			Millions			Thousands			Ones			Less Than One		
H	T	O	H	T	O	H	T	O	H	T	O	T	H	TH

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

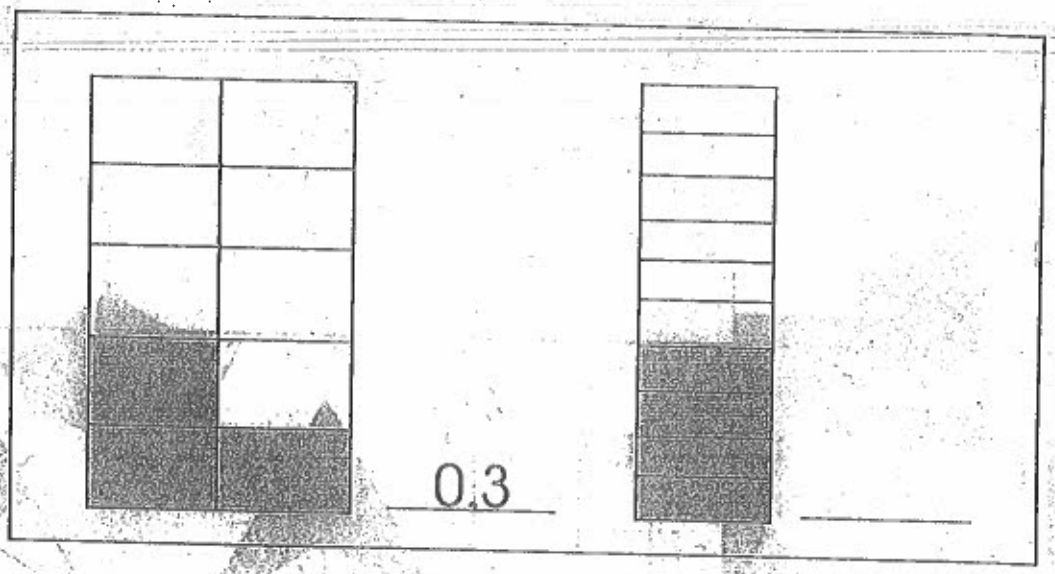
Decimals

A **decimal** is a number with one or more numbers to the right of a decimal point. A **decimal point** is a dot placed between the ones place and the tens place of a number, such as 2.5.

Example:

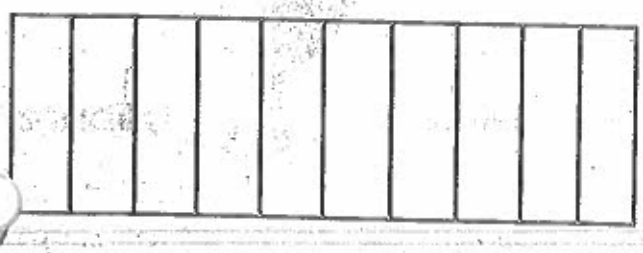
$\frac{3}{10}$ can be written as 0.3 They are both read as three-tenths.

Directions: Write the answer as a decimal for the shaded parts.



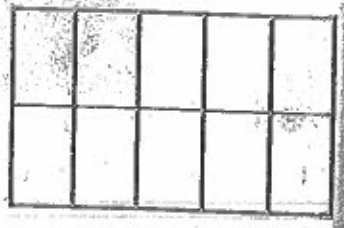
Directions: Color parts of each object to match the decimals given.

0.7



0.6

0.5



Name: _____ Date: _____

Chapter 7

Lesson 7 Decimal Tenths

GOAL

Represent fraction tenths as decimals.

1. Write each decimal as a fraction.

a) 0.3 = _____

b) 0.7 = _____

c) 0.1 = _____

d) 0.2 = _____

e) 0.6 = _____

f) 0.4 = _____

At-Home Help

A **decimal** is a way to describe fractions using place value. A decimal point separates the ones place from the tenths place. For example, 0.5 is the same as five tenths, or $\frac{5}{10}$.

2. Write each fraction as a decimal.

a) $\frac{1}{10}$ = _____

b) $\frac{4}{10}$ = _____

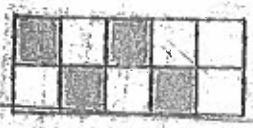
c) $\frac{9}{10}$ = _____

d) $\frac{3}{10}$ = _____

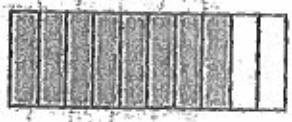
e) $\frac{8}{10}$ = _____

f) $\frac{2}{10}$ = _____

3. Use decimals and words to describe each diagram. The first one is done for you.

a) 

four tenths, 0.4

b) 

c) 

L Name: _____ Date: _____

7.7 Decimal Tenths Page 2

Reflecting

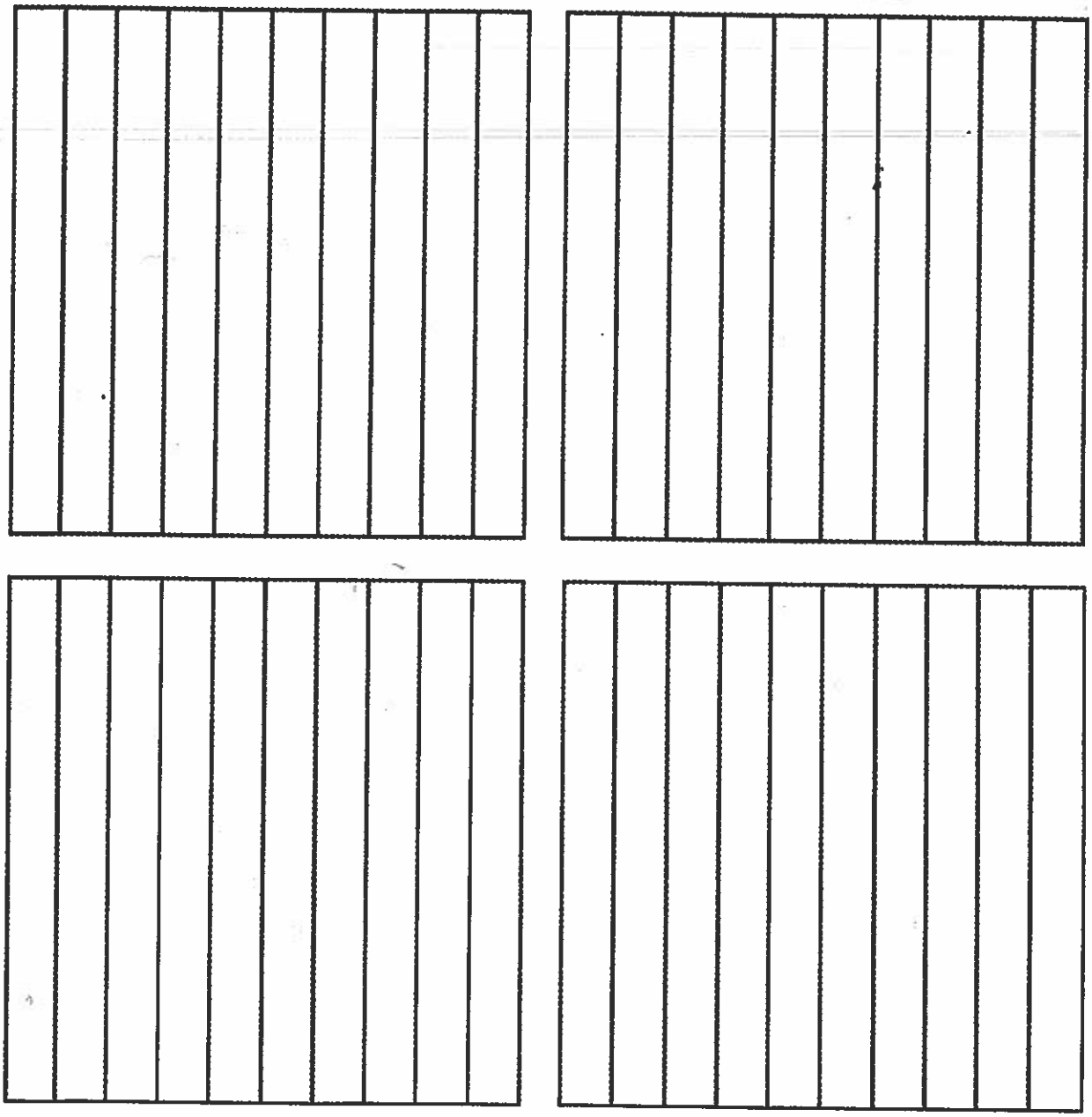
Why are rings on fingers and thumbs a good way to show decimal tenths?

_____

_____

_____

_____



L Name: _____ Date: _____

7.7 Decimal Tenths Page 1

Student Book pages 230–232

GOAL

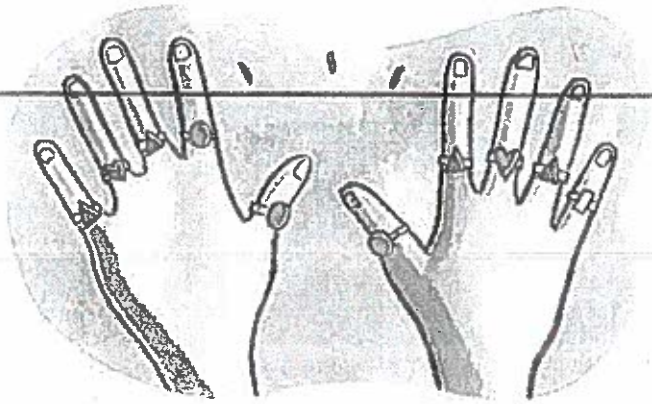
Represent fraction tenths as **decimals**.

decimal

A way to describe fractions using place value. A decimal point separates the ones place from the tenths place.

Problem

Tien has rings on all of her fingers and on her thumbs.



How can Tien describe the number of heart-shaped rings?

Step 1: Count the rings.

How many rings are there? _____

Step 2: Write a fraction to describe the number of heart-shaped rings. $\frac{\square}{10}$

Step 3: Draw 2 rings in the fraction strip below.

The first one has been drawn for you.

$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{5}{10}$	$\frac{6}{10}$	$\frac{7}{10}$	$\frac{8}{10}$	$\frac{9}{10}$	$\frac{10}{10}$
♡									
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0

Step 4: Write the number of heart-shaped rings as a decimal. _____

Types of fractions – tenths as decimals

Fractions can be written as decimals.
This row of multilink cubes shows 10 tenths:

$\frac{6}{10}$ can be shown like this:

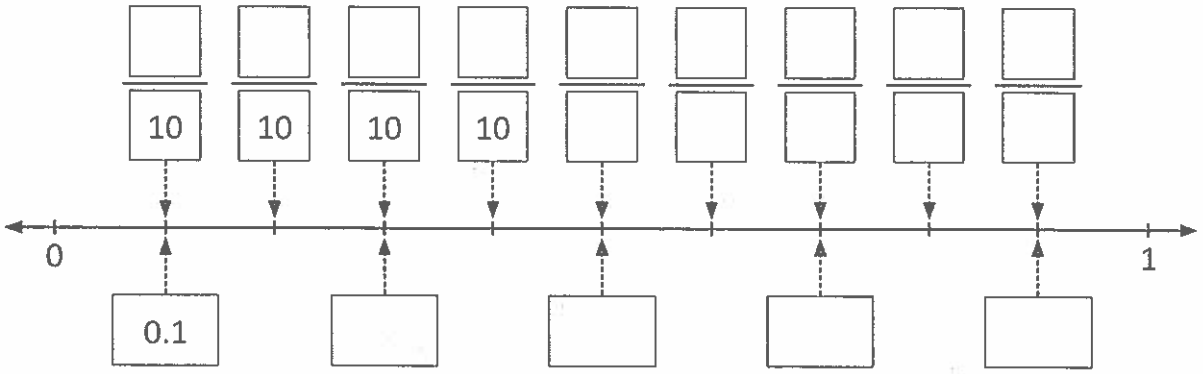
$\frac{6}{10}$ as a decimal is 0.6

Ones	•	Tenths
0	•	6

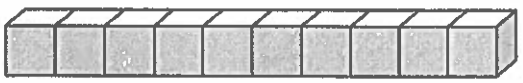
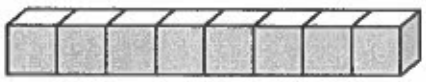
The decimal point separates the whole number from the decimal.

We would write 1 or $\frac{10}{10}$ as 1.0

1 **Complete this number line showing equivalent tenths and decimals:**



2 **If a row of 10 multilink cubes is 1 whole, then label the other rows with a fraction and decimal:**

		Fraction	Decimal
a			
b			
c			

Types of fractions

Name _____

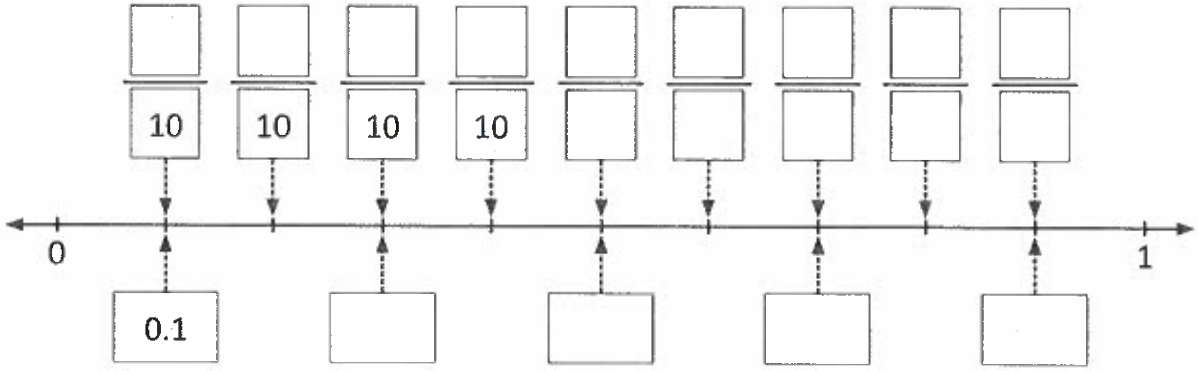
1 **Shade the fraction strips so that each one matches the fraction or decimal:**

a $\frac{7}{10}$

b 0.4

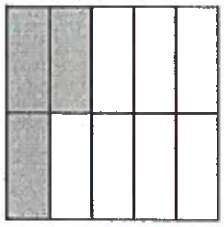
c 0.8

2 **Complete this number line showing equivalent tenths and decimals:**



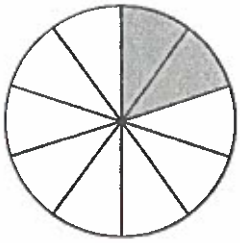
3 **Label these models as fractions and as decimals:**

a



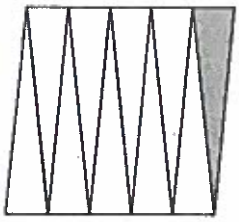
Fraction _____ Decimal _____

b



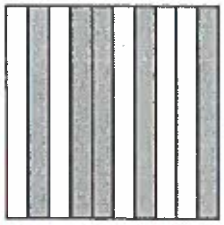
Fraction _____ Decimal _____

c



Fraction _____ Decimal _____

d



Fraction _____ Decimal _____

L Name: _____ Date: _____

7.8 Decimal Hundredths Page 1

Student Book pages 233–235

GOAL

Represent fraction hundredths as decimals.

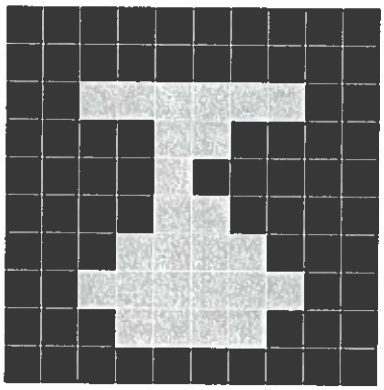
You will need

- pencil
- crayons

Problem

Ethan drew a design on a grid.

How can you use decimals to describe Ethan's picture?



Step 1: How many squares are in the grid? _____

The fraction that describes the whole grid is $\frac{100}{100}$.

The decimal that describes the whole grid is 1.00.

Step 2: Count the number of black squares.

Write a fraction to describe the number of black squares. $\frac{\square}{100}$

Write a decimal to describe the number of black squares. _____

Step 3: Count the number of grey squares.

Write a fraction to describe the number of grey squares. $\frac{\square}{100}$

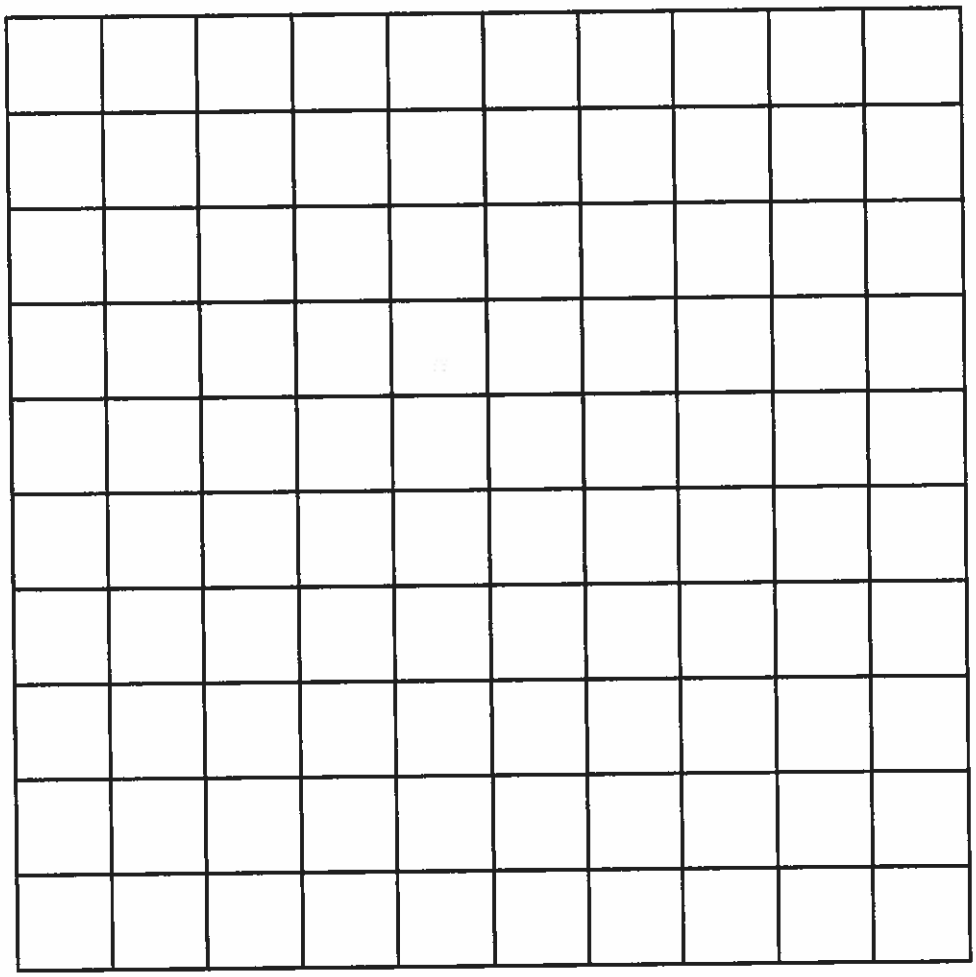
Write a decimal to describe the number of grey squares. _____

L Name: _____ Date: _____

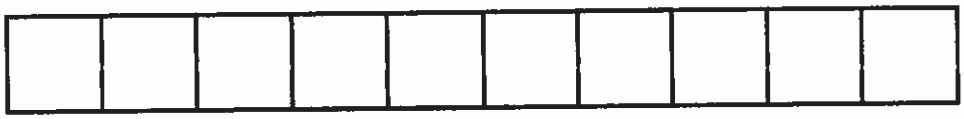
7.8 Decimal Hundredths Page 2

Reflecting

Shade $\frac{7}{100}$ of the grid.



Shade $\frac{7}{10}$ of the strip.



How is 0.07 different from 0.70?

_____

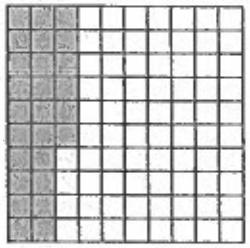
_____

_____

_____

Types of fractions – hundredths as decimals

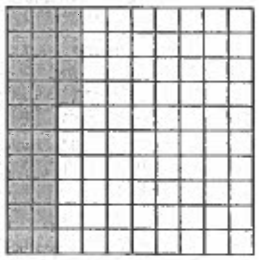
This diagram shows 26 hundredths shaded or $\frac{26}{100}$



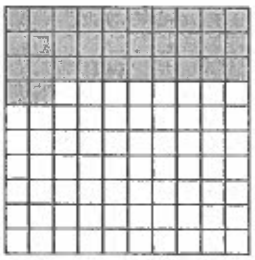
Fractions can be written as decimals. As a decimal, this amount is written as:

Ones		Tenths	Hundredths
0	•	2	6

1 **Label each hundredth grid picture with the fraction and decimal:**



a $\frac{\square}{\square}$ ☐



b $\frac{\square}{\square}$ ☐

2 **Colour this grid of stars according to the directions below:**

a Orange $\frac{22}{100}$

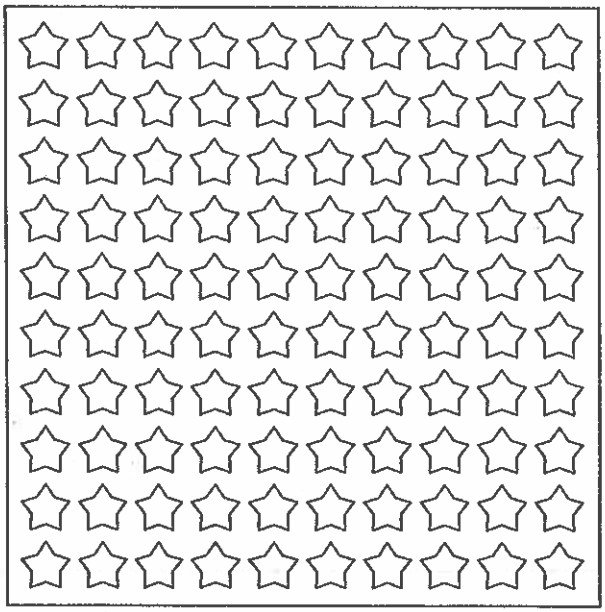
b Blue $\frac{12}{100}$

c Green $\frac{9}{100}$

d Pink $\frac{25}{100}$

e Yellow 0.15

f Red 0.17



Name: _____ Date: _____

Chapter 7

Lesson 8

Decimal Hundredths

GOAL

Represent fraction hundredths as decimals.

1. Write each decimal as a fraction.

a) 0.01 = _____

b) 0.07 = _____

c) 0.40 = _____

d) 0.13 = _____

2. Write each fraction as a decimal.

a) $\frac{6}{100}$ = _____

b) $\frac{8}{100}$ = _____

c) $\frac{20}{100}$ = _____

d) $\frac{55}{100}$ = _____

At-Home Help

You can write fractions out of 100 as decimals. For example, three hundredths.

or $\frac{3}{100} = 0.03$

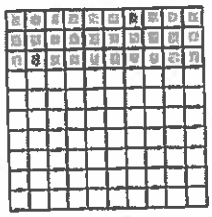
You can also write decimals as fractions out of 100. For example,

$0.24 = \frac{24}{100}$

or twenty-four hundredths.

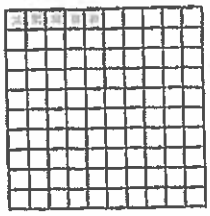
3. Write a fraction and a decimal for the shaded part of each hundredths grid.

a)



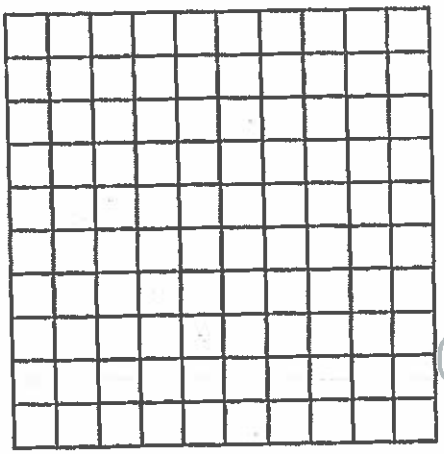
_____

b)



_____

4. a) Colour a design on the hundredths grid. Use more than one colour.



b) Use fractions and decimals to describe your design.

_____

_____

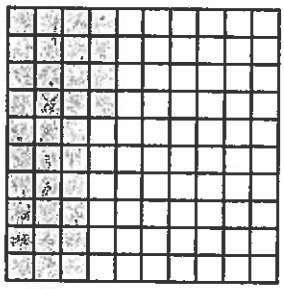
_____

Decimals: Hundredths

ıe next smallest decimal unit after a tenth is called a hundredth. One undredth is one unit of a figure divided into 100 units. Written as a decimal, is one digit to the right of the tenths place.

kamples:

ıne square divided into hundredths, 4 hundredths are shaded. Write: 0.34.



ones	tenths	hundredths
0	3	4

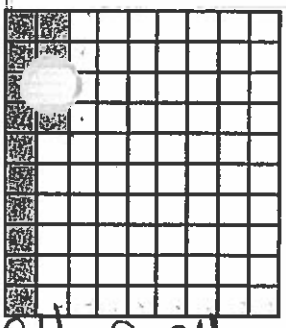
decimal, word form and fraction

0.34

thirty fourths

$\frac{34}{100}$ thirty four hundredths

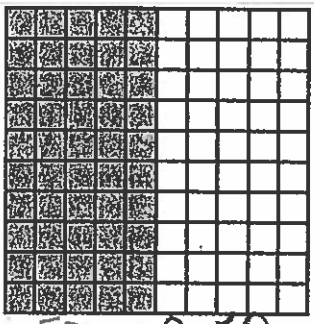
irections: Write the decimal for the shaded parts of the following figures.



$\frac{24}{00}$ 0.24

24 hundredths

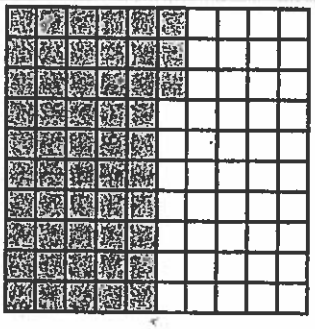
decimals fraction

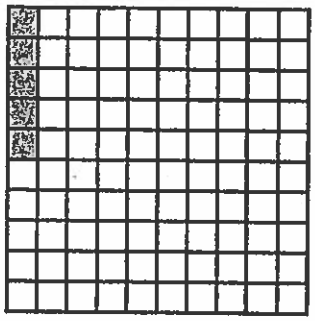


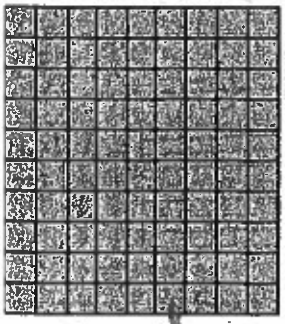
$\frac{50}{100}$ 0.50

50 hundredths

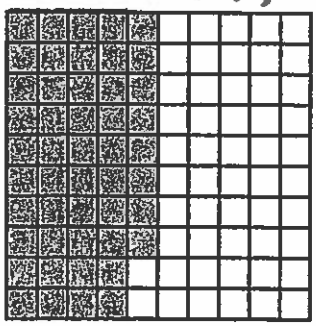
one half





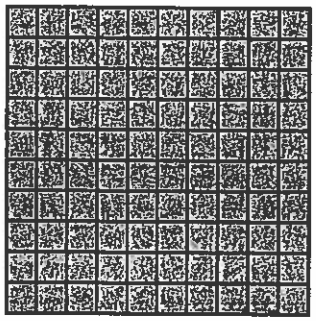


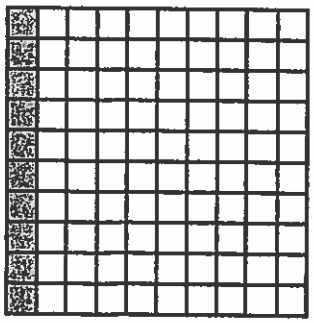
one and four eight hundredths



$1\frac{48}{100}$

1.48



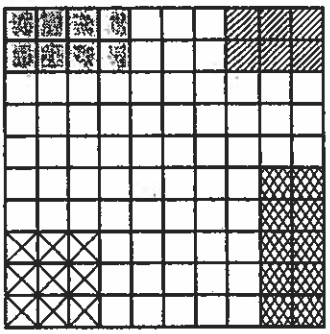


Hundredths

Name _____

There are 100 boxes in the whole square.
Each box is 1 hundredth of the whole square.

8 of the 100 boxes are shaded.



We think:

Ones	Tenths	Hundredths
0	0	8

We say in words: 8 hundredths

We write as a decimal number: 0.08

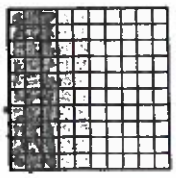
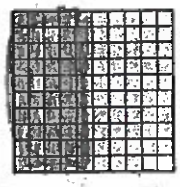
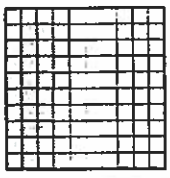
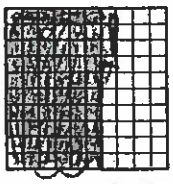
Look at the 100 boxes above. Complete.

	We see:	We think: Ones	Tenths	Hundredths	We say:	We write:
1.	6 ▨	0	0	6	6 hundredths	0.06
2.	___ ☒				___ hundredths	___ . ___ ___
3.	___ ▩				___ hundredths	___ . ___ ___

Write each decimal number.

4. sixty hundredths _____
5. sixteen hundredths _____
6. twenty-four hundredths _____
7. five hundredths _____

Write a decimal number to show how much is shaded.

8. 
9. 
10. 
11. 

_____ _____ _____ _____

L Name: _____ Date: _____

2.6 Decimal Place Value Page 1

Student Book pages 56–59

GOAL

Read, write, and model decimals.

You will need

- base ten blocks
- a decimal place value chart

Mateo bought a package of trail mix to take on a hike.

The mass of the trail mix is 1.393 kg.

How can Mateo model the mass of the trail mix?

You can write fractions as decimals.

Fraction		Decimal
1 tenth	$\frac{1}{10}$	0.1
1 hundredth	$\frac{1}{100}$	0.01
1 thousandth	$\frac{1}{1000}$	0.001

Complete the chart.

Fraction		Decimal
3 tenths	$\frac{\square}{10}$	0.__
25 hundredths	$\frac{\square}{100}$	0.__ __
365 thousandths	$\frac{\square}{1000}$	0.__ __ __

You can write decimals in expanded form.

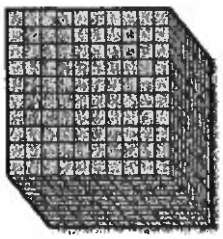
1.257 = 1 whole + 2 tenths + 5 hundredths + 7 thousandths

Write these decimals in expanded form.

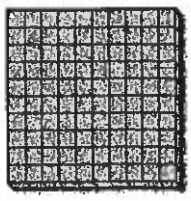
1.834 = __ whole + __ tenths + __ hundredths + __ thousandths

2.696 = __ wholes + __ tenths + __ hundredths + __ thousandths

You can use base ten blocks to model fractions or decimals.



one
1 or 1.0



$\frac{1}{10}$ one tenth or 0.___

$\frac{1}{100}$ one hundredth or 0.___ ___

$\frac{1}{1000}$ one thousandth or 0.___ ___ ___

+10 +10 +10

L Name: _____ Date: _____

2.6 Decimal Place Value Page 2

Use base ten blocks to model 1.393 on a decimal place value chart.
Make a copy of this model.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
		1 	3 	9 	3

Write 1.393 in expanded form.

1.393 = 1 whole + __ tenths + __ hundredths + __ thousandths

or $1 + \frac{\square}{10} + \frac{\square}{100} + \frac{\square}{1000}$

or ___ + 0.__ + 0.__ __ + 0.__ __ __

 +  + = 300 + 90 + 3 small cubes

= _____ thousandths

Write 1.393 in words.

one and _____ *thousandths*

Reflecting

In 1.393, the 3 in the 1st place after the decimal point represents _____.

The 3 in the 3rd place after the decimal point represents _____.

Which of these 3s represents a greater mass?

_____

Ones, Tenths, and Hundredths

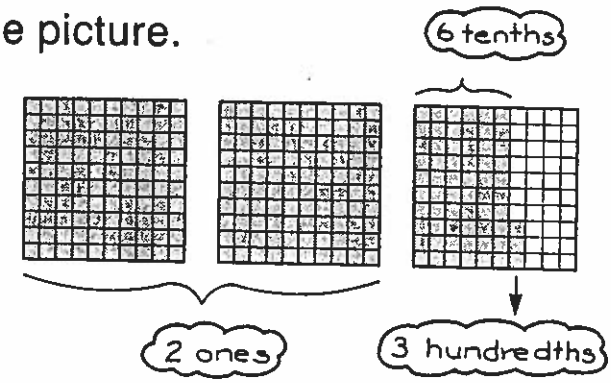
Name _____

Write the decimal number shown by the picture.

How many ones are shown? 2

How many tenths are shown? 6

How many hundredths are shown? 3



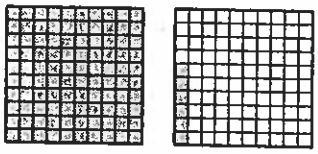
We think:

Ones	Tenths	Hundredths
2	6	3

We say: 2 and 63 hundredths

We write: 2.63

Fill in the place value charts. Write the decimal number for each.

1. 

Ones	Tenths	Hundredths
1	0	6

Decimal Number 1.06

2. 

Ones	Tenths	Hundredths

Decimal Number _____

Write the value of each underlined digit.

3. 5.6̲3 — 6 tenths
5. 8.1̲2 _____
7. 7.8̲5 _____
9. 3.3̲4 _____
11. 1.8̲5 _____
13. 5.9̲1 _____
15. 2.8̲3 _____

4. 9.2̲9 _____
6. 4.4̲1 _____
8. 6.5̲6 _____
10. 3.7̲7 _____
12. 9.2̲5 _____
14. 4.0̲8 _____
16. 4.5̲9 _____

Name: _____ Date: _____

Chapter 2 Lesson 6

Decimal Place Value

GOAL

Read, write, and model decimals.

1. Write each number in standard form.

a) 1 + 0.3 + 0.02 + 0.007 _____

b) 6 + 0.4 + 0.009 _____

c) 0.5 + 0.03 + 0.005 _____

2. Write each number in expanded form using numerals.

a) 3.573 _____

b) 0.486 _____

c) 1.081 _____

3. Write each number in words. The first one is done for you.

a) 1.522 one and five hundred twenty-two thousandths

b) 4.112 _____

c) 0.703 _____

d) 0.008 _____

4. Owen modelled a decimal using base ten blocks on a place value chart. What is Owen's decimal?

_____

At-Home Help

You can use base ten blocks to model decimal values.


one block, or 1

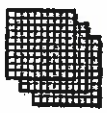

one tenth of a block, or 0.1


one hundredth of a block, or 0.01

one thousandth of a block, or 0.001

To read a number with a decimal, say "and" for the decimal part. Omit the "and" if there is no whole number part. For example:

- 1.382 is one and three hundred eighty-two thousandths.
- 0.047 is forty-seven thousandths.

Thousands			Ones		
Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
					

C&P Name: _____ Date: _____

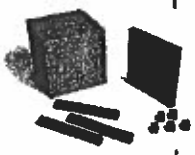
2.6 Decimal Place Value Page 1

Student Book pages 56–59

Checking

You will need

- base ten blocks



- a decimal place value chart

1. a) Rachel bought a 1.098 kg package of trail mix.

Model 1.098 kg using base ten blocks.

Hint: Leave the column empty when the place value is 0.

Sketch your model.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

Write 1.098 in expanded form.

Hint: Do not include place values that are 0.

1.098 = 1 whole + __ hundredths + __ thousandths

or 1 + $\frac{\square}{100}$ + $\frac{\square}{1000}$

or 1 + 0.__ __ + 0.__ __ __

Write 1.098 kg in words.

one and _____ *thousandths of a kilogram*

b) Lauren bought a 1.401 kg package of trail mix.

Model 1.401 kg using base ten blocks.

Sketch your model.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

C&P Name: _____ Date: _____

2.6 Decimal Place Value Page 2

Write 1.401 in expanded form.

1.401 = ___ whole + __ tenths + __ thousandth

or _____ + $\frac{\square}{\square}$ + $\frac{\square}{\square}$

or _____ + 0.__ + 0.__ __ __

Write 1.401 kg in words.

_____

Practising

2. A Canadian penny costs 0.008 cents to make.

a) Model 0.008 on a place value chart.

Hint: Leave the column empty when the place value is 0.

Sketch your model.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

b) Write the cost in expanded form.

Hint: Only include place values that are not 0.

The expanded form of 0.008 is just _____ or $\frac{\square}{\square}$ or 0.__ __ __.

c) Write the cost in words.

_____

3. a) Write 6 + 0.5 + 0.02 + 0.006 in standard form. __. __ __ __

b) Write 1 + 0.2 + 0.005 in standard form. __. __ __ __

C&P Name: _____ Date: _____

2.7 Renaming Decimals Page 1

Student Book pages 60–63

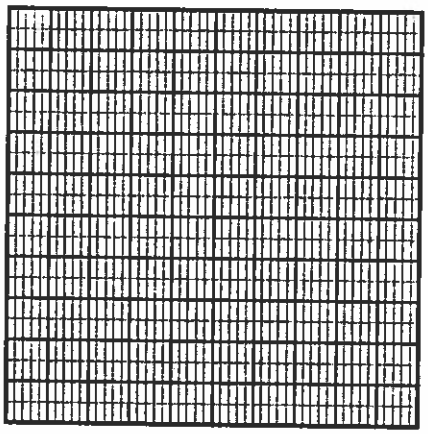
Checking

You will need

- pencil crayons
- thousandths grids

1. There are 1000 students at Belle's school.
   400 students play an instrument.

   a) Colour a thousandths grid to show 400 out of 1000 students.
   Hint: Each column is 1 tenth. 1000 ÷ 10 = _____,
   so each column is _____ thousandths.



   b) Write a fraction to represent the coloured part of the grid. $\frac{\square}{1000}$
   Write this fraction as a decimal. _____

   Each square on the grid is 1 _____.
   Count the number of squares you coloured.
   Write another fraction to represent the coloured part of the grid. $\frac{\square}{100}$

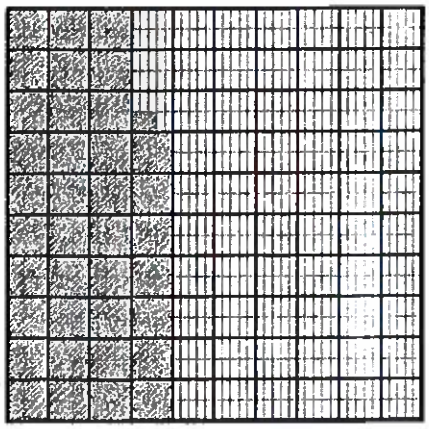
   Each column on the grid is 1 _____.
   Count the number of columns you coloured.
   Write another fraction to represent the coloured part of the grid. $\frac{\square}{10}$
   Write this fraction as a decimal. _____

C&P Name: _____ Date: _____

2.7 Renaming Decimals Page 2

Practising

2. Emanuel coloured part of a thousandths grid.



a) Write a fraction to represent the coloured part. $\frac{\square}{\square}$

b) Write a decimal thousandth to represent the coloured part. _____

5. a) 0.29

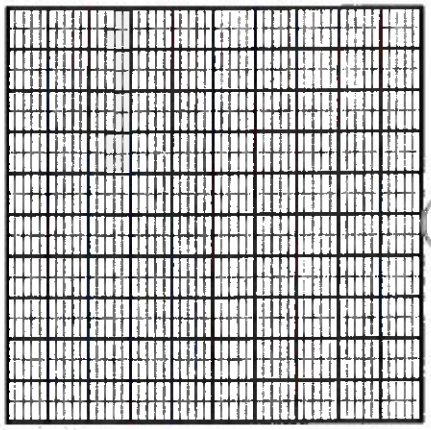
Write the decimal in expanded form.

_____ tenths + _____ hundredths

1 column is 1 tenth.

1 square is 1 _____.

Colour the decimal on the grid.

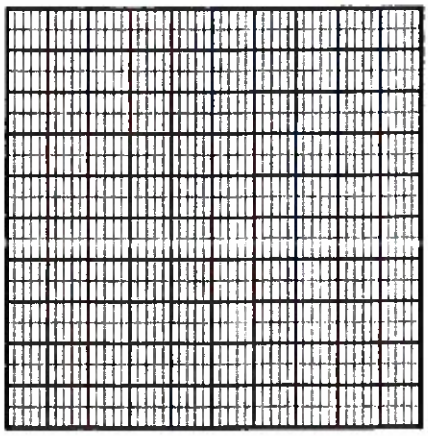


Write the decimal as an equivalent decimal thousandth.

0.29 = _____

b) 0.68

Colour the decimal on the grid.



Write the decimal as an equivalent decimal thousandth.

0.68 = _____

L Name: _____ Date: _____

2.7 Renaming Decimals Page 1

Student Book pages 60–63

GOAL

Represent decimals and relate them to fractions.

You will need

- pencil
- crayons
- thousandths grids
- hundredths grids

Anne goes to a school with 100 students.

Belle goes to a school with 1000 students.

There are 24 Grade 5 students in Anne's school.

There are 240 Grade 5 students in Belle's school.

How can you use decimals to compare the Grade 5 students in the 2 schools?

Step 1: Write a fraction for the number of Grade 5 students in Anne's school. $\frac{24}{100}$

Step 2: Model the fraction on a hundredths grid.

There are 10 columns in a hundredths grid.

Each column is one tenth or $\frac{1}{10}$ or 0.1.

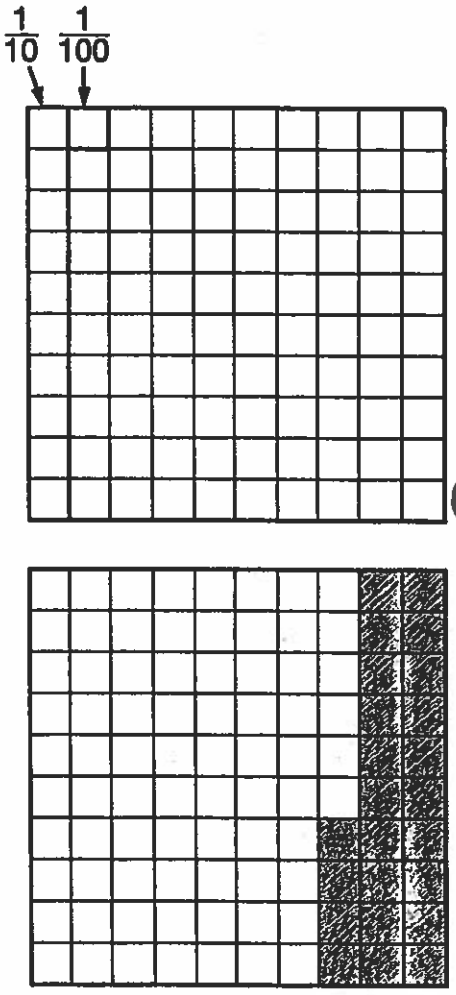
There are 100 squares in a hundredths grid.

Each square is one hundredth or $\frac{1}{100}$ or 0.01.

How many squares are in 1 column? _____

So, one tenth = _____ hundredths.

Colour 24 hundredths on the grid.



Step 3: Write the fraction $\frac{24}{100}$ as a decimal. 0._____

Step 4: Write the fraction $\frac{24}{100}$ in expanded form.

$\frac{24}{100}$ is the same as 24 hundredths.

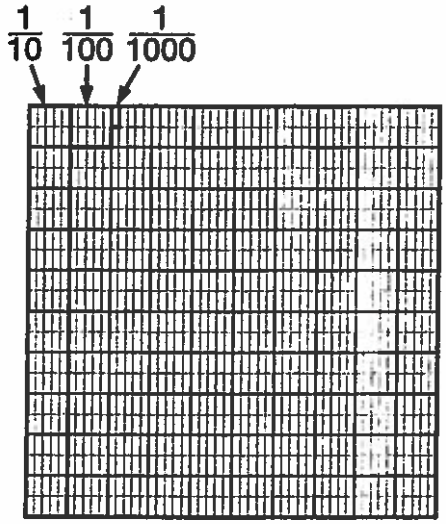
24 hundredths is _____ tenths + _____ hundredths.

L Name: _____ Date: _____

2.7 Renaming Decimals Page 2

Step 5: Write a fraction for the number of Grade 5 students in Belle's school. $\frac{\square}{\square}$

Step 6: Model the fraction on a thousandths grid.



There are 10 columns in a thousandths grid.

Each column is one tenth or $\frac{1}{10}$ or 0.1.

There are _____ squares in a thousandths grid.

Each square is one _____ or $\frac{\square}{\square}$ or 0._____.

How many squares are in a column? _____

So, 1 tenth = _____ hundredths.

There are 1000 rectangles in a thousandths grid.

Each rectangle is one thousandth or $\frac{1}{1000}$ or 0.001.

There are 100 rectangles in a column.

So, 1 tenth = _____ thousandths.

Colour 240 hundredths on the grid.

equivalent

Having the same value

For example,

$\frac{8}{10} = \frac{80}{100}$

Step 7: Write the fraction $\frac{240}{1000}$ as a decimal. 0._____

Step 8: Write the fraction $\frac{240}{1000}$ in expanded form.

$\frac{240}{1000}$ is the same as 240 thousandths.

240 thousands is _____ tenths + _____ hundredths + _____ thousandths

The amount that is coloured on both grids is the same.

The decimals 0.24 and 0.240 are **equivalent** decimals.

Reflecting

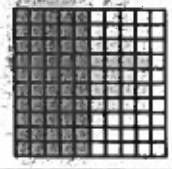
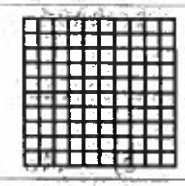
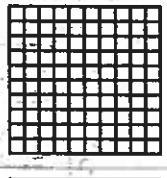
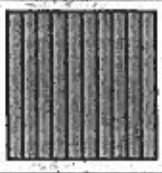
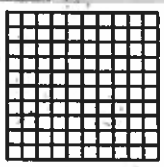
How did writing both decimals in expanded form show that they are equivalent?

_____

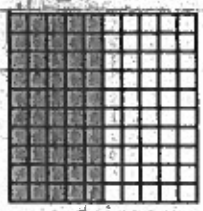
_____

NS4-103: Changing Tenths to Hundredths

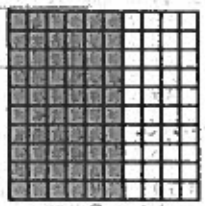
1. Fill in the chart below. The first one has been done for you.

Drawing	Fraction	Decimal	Equivalent Decimal	Equivalent Fraction	Drawing
	$\frac{5}{10}$	0.5	0.50	$\frac{50}{100}$	
					
					
					

2. Write a fraction for the number of <u>hundredths</u>. Then count the shaded columns and write a fraction for the number of <u>tenths</u>.

a) 

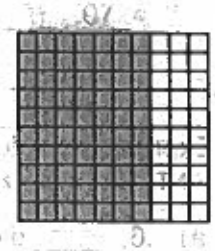
$\frac{\quad}{100} = \frac{\quad}{10}$

b) 

$\frac{\quad}{100} = \frac{\quad}{10}$

c) 

$\frac{\quad}{100} = \frac{\quad}{10}$

d) 

$\frac{\quad}{100} = \frac{\quad}{10}$

3. Fill in the missing numbers.

REMEMBER: $\frac{10}{100} = \frac{1}{10}$

a) $.2 = \frac{2}{10} = \frac{\quad}{100} = .\_\_$

b) $.\_ = \frac{3}{10} = \frac{\quad}{100} = .30$

c) $.\_ = \frac{7}{10} = \frac{\quad}{100} = .70$

d) $.\_ = \frac{5}{10} = \frac{\quad}{100} = .\_\_$

e) $.\_ = \frac{\quad}{10} = \frac{60}{100} = .\_\_$

f) $.\_ = \frac{\quad}{10} = \frac{90}{100} = .\_\_$

g) $.\_ = \frac{1}{10} = \frac{\quad}{100} = .\_\_$

h) $.\_ = \frac{8}{10} = \frac{\quad}{100} = .\_\_$

i) $.4 = \frac{\quad}{10} = \frac{\quad}{100} = .\_\_$

NS4-104: Decimals and Money

A **dime** is **one tenth** of a dollar. A **penny** is one **hundredth** of a dollar.

1. Express the value of each decimal in four different ways.

a) .73

7 dimes 3 pennies

7 tenths 3 hundredths

73 pennies

73 hundredths

b) .62

c) .48

d) .03

e) .09

f) .19

2. Express the value of each decimal in four different ways.
HINT: First add a zero in the hundredths place.

a) .6 ____ dimes ____ pennies
____ tenths ____ hundredths
____ pennies
____ hundredths

b) .8 ____ dimes ____ pennies
____ tenths ____ hundredths
____ pennies
____ hundredths

3. Express the value of each decimal in four different ways. Then circle the greater number.

a) .3 ____ dimes ____ pennies
____ tenths ____ hundredths
____ pennies
____ hundredths

b) .18 ____ dimes ____ pennies
____ tenths ____ hundredths
____ pennies
____ hundredths

4. Fred says .32 is greater than .5 because 32 is greater than 5. Can you explain his mistake?

Name: _____ Date: _____

Chapter 2 Lesson 7

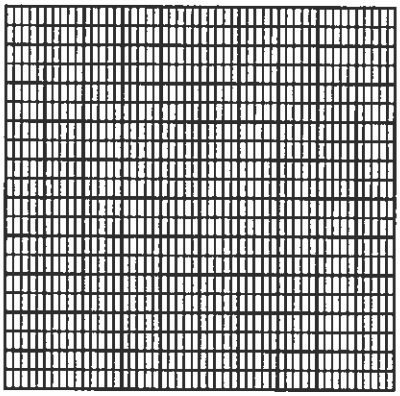
Renaming Decimals

GOAL

Represent decimals and relate them to fractions.

1. There are 1000 cans of drinks.
350 of the cans hold juice.

a) Colour the thousandths grid to represent the number of juice cans.



b) Complete these fractions to show the number of juice cans. $\frac{\quad}{100}$ or $\frac{\quad}{1000}$

c) Write the number of juice cans as a decimal hundredth. _____

d) Write the number of juice cans as a decimal thousandth. _____

At-Home Help

Equivalent means having the same value. For example:

- 0.4, 0.40, and 0.400 are equivalent decimals.
- $\frac{3}{10}$, $\frac{30}{100}$, and $\frac{300}{1000}$ are equivalent fractions.
- 0.08 is equivalent to 0.080, or $\frac{8}{100}$, or $\frac{80}{1000}$.

2. Write each decimal as a decimal hundredth and as a decimal thousandth.

a) 0.4 0.40 and _____

b) 0.1 _____ and _____

c) 0.9 _____ and _____

d) 0.7 _____ and _____

3. Write each fraction as a decimal thousandth and as a decimal hundredth.

a) $\frac{730}{1000}$ _____ and _____

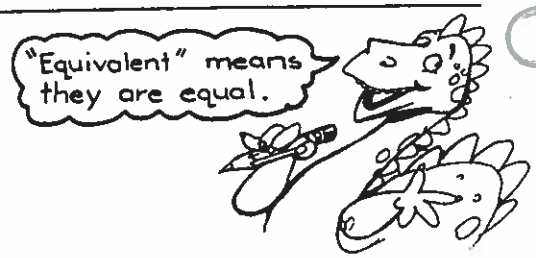
b) $\frac{120}{1000}$ _____ and _____

c) $\frac{80}{1000}$ _____ and _____

d) $\frac{10}{1000}$ _____ and _____

Equivalent Decimals

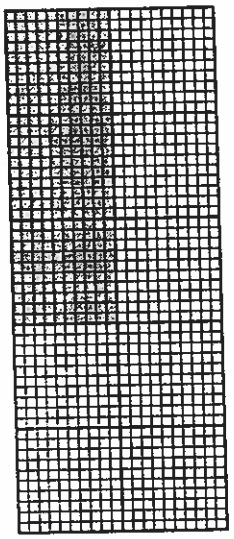
Name _____



Different decimals can have the same value.
These are called equivalent decimals.

There are 10 boxes in the rectangle.
Each box is 1 tenth of the rectangle.
3 boxes are shaded.

0.3 of the rectangle is shaded.



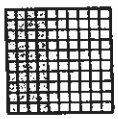
There are 1000 small squares in the rectangle.
Each small square is 1 thousandth of the rectangle.
300 small squares are shaded.

$0.300\overline{0}$ of the rectangle is shaded.

So 3 tenths and 300 thousandths are equivalent. $0.3 = 0.300$

Write 2 decimal numbers for each picture.

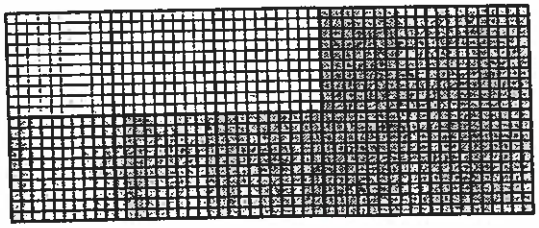
1.



4 tenths = 0.4
40 hundredths = 0.40

$0.4 = 0.40$

2.



7 tenths = 0.7
700 thousandths = 0.700

Write an equivalent decimal number.

3. 0.08	0.080	4. 0.1	_____	5. 0.200	_____
6. 0.6	_____	7. 0.06	_____	8. 0.370	_____
9. 0.57	_____	10. 0.400	_____	11. 0.16	_____
12. 0.12	_____	13. 0.010	_____	14. 0.5	_____

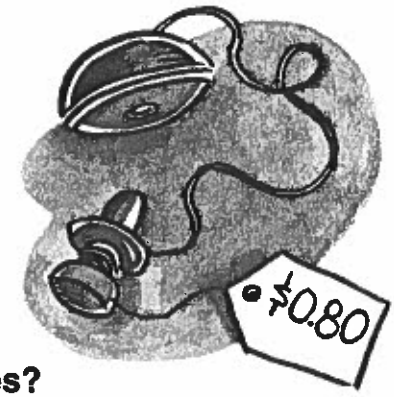
L Name: _____ Date: _____

7.9 Representing Decimals with Coins Page 1

Student Book pages 236–238

GOAL

Represent parts of a dollar as decimals.



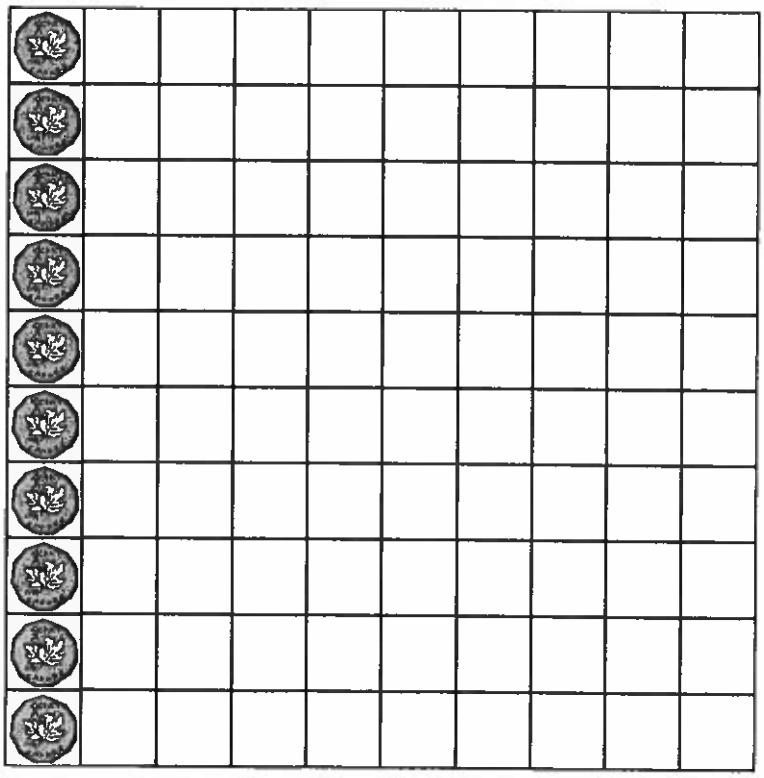
Problem

You want to buy a toy with your allowance.

How can you pay for this toy with pennies or with dimes?

Model the cost of the toy on a 100 grid.

Step 1: Draw circles to show the number of pennies you need to pay for the toy.
The first 10 pennies have been drawn for you.



Each penny is worth $\frac{1}{100}$ or 0.01 of a dollar.

$0.80 means $\frac{80}{100}$ or 0.80 of a dollar.

How many pennies do you need to pay for the toy? _____

L Name: _____ Date: _____

7.9 Representing Decimals with Coins Page 2

Step 2: 1 column of pennies on a 100 grid is worth 1 dime or 0.10 of a dollar. There are 10 columns in the grid.

Write a fraction that tells how many columns are filled with pennies. $\frac{\square}{10}$

How many dimes do you need to pay for the toy? _____

Reflecting

How many pennies would you need to show 0.70? _____

How do you know?

_____

_____

How many dimes would you need to show 0.70? _____

How do you know?

_____

_____

NS4-95: Canadian Bills and Coins

Jenny makes a chart with the **names** of the Canadian coins and the amount each is **worth**:

Penny	Nickel	Dime	Quarter	Loonie	Toonie
1 cent	5 cents	10 cents	25 cents	100 cents	200 cents
$0.01	$0.05	$0.10	$0.25	$1.00	$2.00
1¢	5¢	10¢	25¢	100¢	200¢

1. Circle all the correct forms of writing amounts of (Canadian) money. Cross out the incorrect forms.

Example: (\$1.00) ~~\$4.56632~~

0.45¢	2.34$	\$15.958	\$10.05	&18.66	&56¢
¢23	¢676	\$85.32	\$0.95	¢36	\$0.17
¢15.18	\$25.30	36¢	\$18.50	\$95.99	\$12.3560

2. Match the picture of each coin to its correct value.
BE CAREFUL: There are more answers than coins.

\$3.00 \$2.00 \$1.00 25¢ 1¢ 10¢ \$0.05 13¢ \$0.75 15¢

3. Match the picture of each bill to its correct value. Again, there are more answers than bills.

\$5.00 \$20.00 \$100.00 \$10.00 \$50.00 \$1000.00 \$500.00

Name: _____ Date: _____

Chapter 7 Lesson 9

Representing Decimals with Coins

GOAL

Represent parts of a dollar as decimals.

1. How can you pay each amount using pennies?

   a) $0.15 _____ pennies

   b) $0.76 _____ pennies

2. How can you pay each amount using dimes and pennies?

   a) $0.37 _____ dimes, _____ pennies

   b) $0.19 _____ dimes, _____ pennies

3. How can you pay each amount using loonies, dimes, and pennies?

   a) $1.67 _____

   b) $2.32 _____

   c) $5.74 _____

4. How can you represent each amount of money using a decimal?

   a) five pennies _____ b) one dime, three pennies _____

5. What does each digit in $3.81 represent?

   3 _____

   8 _____

   1 _____

At-Home Help

You can represent values of ~~coins using decimals~~.

A penny is worth $\frac{1}{100}$ or 0.01 of a dollar.

A nickel is worth $\frac{5}{100}$ or 0.05 of a dollar.

A dime is worth $\frac{10}{100}$ or 0.10 of a dollar.

A quarter is worth $\frac{25}{100}$ or 0.25 of a dollar.

C&P Name: _____ Date: _____

7.9 Representing Decimals with Coins Page 1

Student Book pages 236–238

GOAL

Represent parts of a dollar as decimals.

You will need

- play money

Checking

1. Julia pays with pennies.

Luis pays with pennies and dimes.

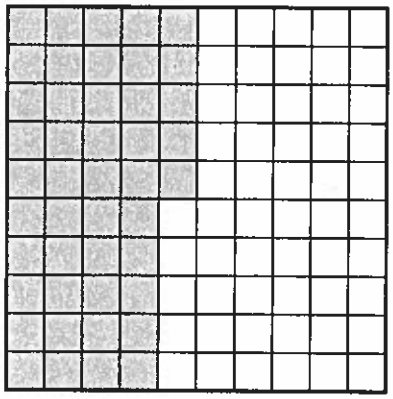
The grids below are shaded to show the amount each person will pay.

Explain which coins each person will use to pay.

Hint: Each grid represents $1.00.

Each part represents $0.01 or 1 penny.

a)



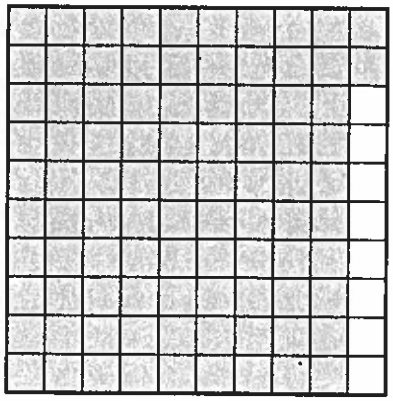
How many parts are shaded? _____

How many pennies will Julia use to pay $0.45? _____

How many dimes and pennies will Luis use to pay $0.45?

_____ dimes _____ pennies

b)



How many parts are shaded? _____

How many pennies will Julia use to pay $0.92? _____

How many dimes and pennies will Luis use to pay $0.92?

_____ dimes _____ pennies

C&P Name: _____ Date: _____

7.9 Representing Decimals with Coins Page 2

Practising

2. a)

How many dimes are there? _____

Write this amount of money as a decimal. $_____

How many pennies are there? _____

Write this amount of money as a decimal. $_____

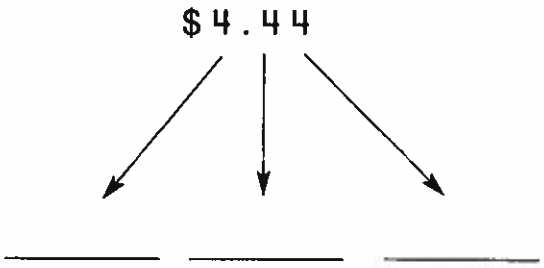
Write the total amount of money as a decimal. $_____

b)

Write the total amount of money as a decimal. $ _____

5. Model $4.44 with play money.

Write what each 4 represents.



_____ _____ _____

Money Amounts to $999

Here are some Canadian bills and their values.

We see:

We think: $300 + $20 + $4

We write: $324

How much money is shown?

1.

2.

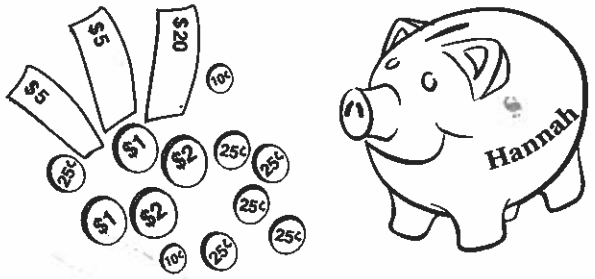
3.

4.

Counting Money Collections

Goal **Estimate, count, and write money amounts up to $50.00.**

1. a) Estimate how much money Hannah has.



_____

b) Find the actual amount.

At-Home Help

When counting money some regrouping is the same as place value regrouping.
1 ten-dollar bill = 10 loonies
1 loonie = 10 dimes

Some regrouping is different.
1 ten-dollar bill is also equal to 2 five-dollar bills or 5 toonies.
1 loonie is also equal to 4 quarters or 20 nickels.
1 quarter is also equal to 2 dimes and 1 nickel, or 5 nickels.
1 dime is also equal to 2 nickels.

2. Describe bills and coins to make $5.00 in 3 different ways.

way 1: _____

way 2: _____

way 3: _____

3. Hong has 1 twenty-dollar bill, 1 five-dollar bill, 8 quarters, 8 dimes, and 1 nickel.

a) Estimate the total amount of money he has. _____

b) Find the actual total.

4. How would you make $22.35 using the fewest bills and coins?

L Name: _____ Date: _____

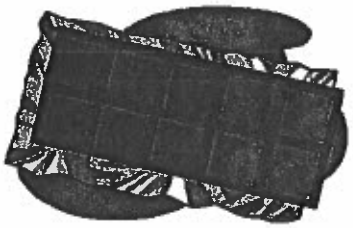
2.8 Communicating about Equivalent Decimals Page 1

Student Book pages 64–65

GOAL

Explain whether two decimals are equivalent.

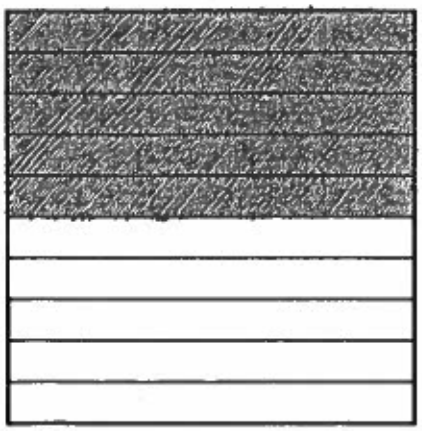
Stefan has a chocolate bar.
His brother, Colin, wants him to share it.
Stefan tells Colin that 0.5, 0.50, and 0.500 of the chocolate bar are the same amount.
Colin wants to know why.



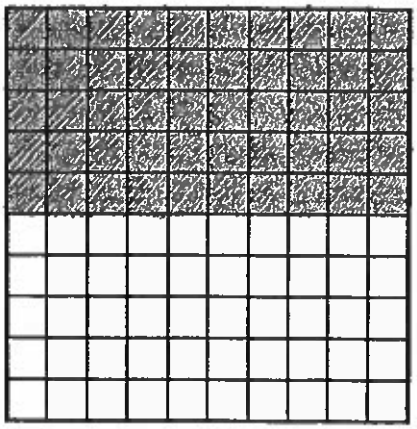
How can Stefan explain how he knows that the decimals are equivalent?

This is Stefan's explanation.
I'll use models to represent the chocolate bar, and I'll colour the decimals.

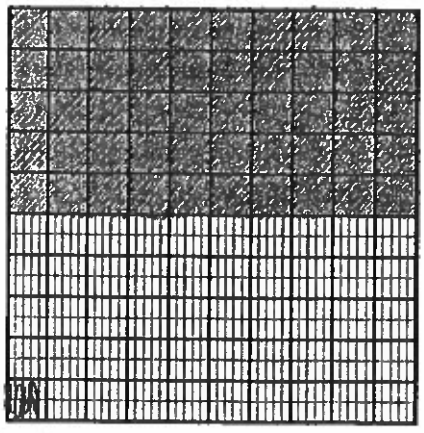
I can model 0.5 on a tenths grid.



I can model 0.50 on a hundredths grid.



I can model 0.500 on a thousandths grid.



The decimals 0.5, 0.50, and 0.500 are equivalent because the same amount is coloured on all 3 grids.

L Name: _____ Date: _____

2.8 Communicating about Equivalent Decimals Page 2

What did Stefan explain well? Use the Communication Checklist.

_____

_____

_____

_____

Communication Checklist

- ✔ Did you use math language?
- ✔ Did you include the right amount of detail?
- ✔ Did you include a diagram?

Improve Stefan's explanation.

Explain why Stefan modelled 0.5 on a tenths grid, 0.50 on a hundredths grid, and 0.500 on a thousandths grid.

_____

_____

Explain why Stefan could compare the coloured amounts on the 3 different grids.

Hint: How are the grids alike? How are they different?

_____

_____

_____

Reflecting

How did the diagrams help Stefan explain?

_____

_____

_____

_____

S4-109: Ordering Fractions and Decimals

Write the numbers in increasing order. First change each decimal to a fraction with denominator 10.

a) 0.7 0.3 0.5 — $\frac{7}{10}$ ☐ ☐

b) $\frac{1}{10}$ 0.3 0.9 — ☐ ☐ ☐

c) 0.2 0.6 $\frac{3}{10}$ — ☐ ☐ ☐

d) 1.2 3.5 3.1 — $1\frac{2}{10}$ ☐ ☐

e) 1.5 1.2 1.7 — ☐ ☐ ☐

f) $1\frac{1}{10}$ .7 3.5 — ☐ ☐ ☐

g) $1\frac{3}{10}$ 1.2 1.1 — ☐ ☐ ☐

h) 4.5 3.2 $1\frac{7}{10}$ — ☐ ☐ ☐

i) 2.3 2.9 $2\frac{1}{2}$ — ☐ ☐ ☐

2. Karen says: "To compare .6 and .42, I add a zero to .6.

.6 = 6 tenths = 60 hundredths = .60

60 (hundredths) is greater than 42 (hundredths).

So .6 is greater than .42."

Add a zero to the decimal expressed in tenths. Then circle the greater number in each pair.

a) .7 .52 b) .34 .6 c) .82 .5

3. Write each decimal as a fraction with denominator 100 by first adding a zero to the decimal.

a) .7 = .70 = $\frac{70}{100}$ b) .6 = ☐ = ☐ c) .5 = ☐ = ☐

4. Write the numbers in order from least to greatest by first changing all of the decimals to fractions with denominator 100.

a) .2 .8 .35 — $\frac{20}{100}$ ☐ ☐

b) $\frac{27}{100}$ .9 .25 — ☐ ☐ ☐

c) 1.3 $1\frac{22}{100}$ $1\frac{39}{100}$ — ☐ ☐ ☐

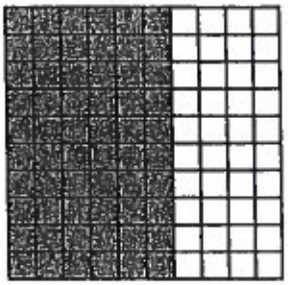
CHAPTER 2
8

Name: _____ Date: _____

Exploring Equivalent Decimals

Goal **Rename a decimal tenth as a decimal hundredth.**

1. Write a decimal tenth to describe the part of the grid that is shaded.



_____

2. Write a decimal hundredth to describe the same part.

_____

3. Shade in three more squares on the grid.

4. Write a decimal number for the total shaded part.

_____

5. Write two ways to read this decimal number.

_____

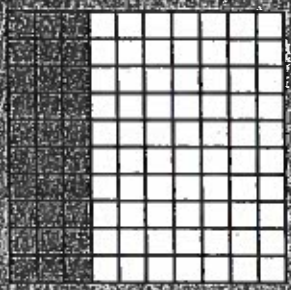
_____

At-Home Help

Some decimal numbers can be read as tenths or hundredths.

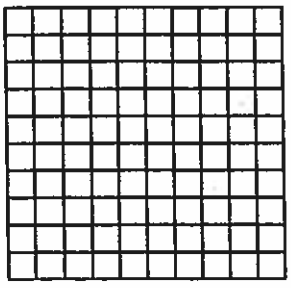
For example, 0.30 can be read as "three tenths" or "thirty hundredths."

0.30 can be represented by the shaded part of this decimal grid.

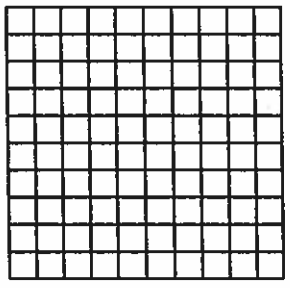


6. Show each decimal number on a grid by shading the appropriate squares.

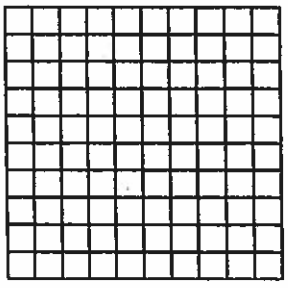
a) 0.70



b) 0.34



c) 0.07



7. Which of these decimal hundredths can be expressed as decimal tenths? Give reasons for your choice.

0.70 0.07 0.77 0.17

_____

_____

C&P Name: _____ Date: _____

2.8 Communicating about Equivalent Decimals Page 1

Student Book pages 64–65

Checking

Communication Checklist

- ✔ Did you use math language?
- ✔ Did you include the right amount of detail?
- ✔ Did you include a diagram?

1. Emily explained why 0.2 and 0.20 are equivalent.

I can model 0.2 and 0.20 on a place value chart.
They are equivalent.

Use the Communication Checklist to improve Emily's explanation.

☐ Did Emily use math language?

Underline the math language Emily used in her explanation.

☐ Did Emily include the right amount of detail?

Rewrite Emily's explanation using more detail.

I can model 0.2 and 0.20 on a place value chart.
0.2 is _____ tenths and 0.20 is _____ hundredths.
I can regroup 20 hundredths as 2 _____.
So, 0.2 and 0.20 are _____ decimals.

☐ Did Emily include a diagram?

Show 0.2 and 0.20 on the place value chart below.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

C&P Name: _____ Date: _____

2.8 Communicating about Equivalent Decimals Page 2

Practising

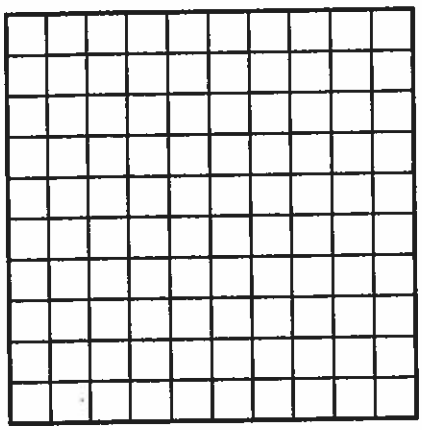
2. Jeremy and Anna are driving to Peace River with their parents.

Jeremy says that they have driven 0.3 of the way.

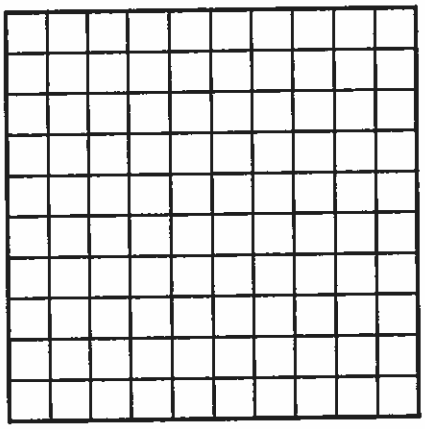
Anna says that they have driven $\frac{30}{100}$ of the way.

Explain why they are both right.

Represent 0.3 and $\frac{30}{100}$ on the hundredths grids.



0.3



$\frac{30}{100}$

Use your diagrams to help you explain why 0.3 and $\frac{30}{100}$ are equivalent.

Use the Communication Checklist.

_____

_____

_____

_____

Communication Checklist

- ✔ Did you use math language?
- ✔ Did you include the right amount of detail?
- ✔ Did you include a diagram?

Name: _____ Date: _____

Chapter 2 Lesson 8

Communicating about Equivalent Decimals

GOAL

Explain whether two decimals are equivalent.

1. Explain how you know that 0.6 is equivalent to 0.60. Use the Communication Checklist.

_____

_____

_____

At-Home Help

Communication Checklist

- ✔ Did you use math language?
- ✔ Did you include the right amount of detail?
- ✔ Did you include a diagram?

2. Brandon lives 100 m away from the school. He says, "I walked 50 m. This means that I walked 0.05 of the distance." Do you agree with Brandon? Explain why or why not. $0.50 = 0.05$?

_____

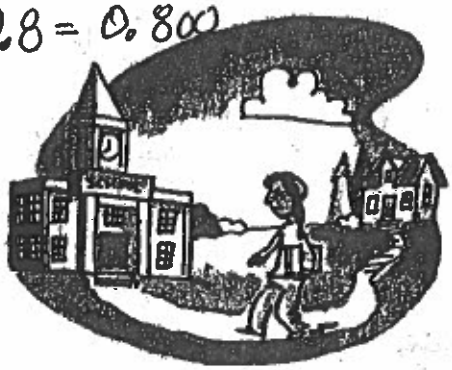
_____

3. Jay's home is 100 m away from the school. He walked 0.6 of the distance. How many metres did he walk? How do you know? $0.6 = 0.\_\_$

_____

_____

4. Rachel's home is 1000 m away from the school. She walked 0.8 of the distance. How many metres did she walk? How do you know? $0.8 = 0.800$



_____

_____

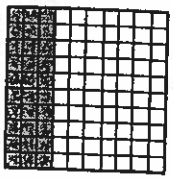
Equivalent Decimals

Name _____

The shaded areas of the squares show that 0.3 and 0.30 name the same amount.
0.3 and 0.30 are **equivalent decimals**.

$0.3 = 0.30$

0.3

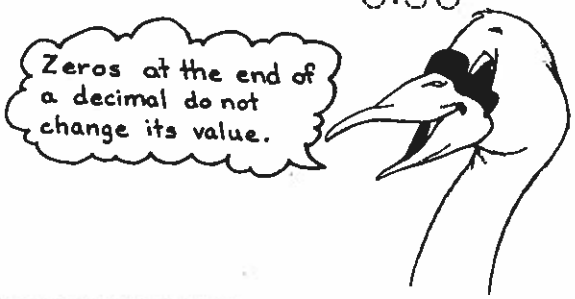


0.30

Here are other sets of equivalent decimals.

1.4 1.40 1.400

0.550 0.55



Are the decimals equivalent? Write yes or no.
Use the place value chart if you wish.

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

1. 0.03, 0.300 _____
2. 7.6, 7.06 _____
3. 0.29, 0.290 _____
4. 15.33, 15.330 _____
5. 9.862, 9.86 _____
6. 4.103, 4.130 _____
7. 892.6, 892.60 _____
8. 50.020, 50.02 _____
9. 101.011, 101.11 _____

Write an equivalent decimal for each.

10. 0.9 _____
11. 5.08 _____
12. 82.15 _____
13. 6.40 _____
14. 18.2 _____
15. 155.500 _____

Write 2 equivalent decimals for each.

16. 0.80 _____
17. 18.4 _____
18. 700.7 _____
19. 5 _____

L Name: _____ Date: _____

2.9 Rounding Decimals Page 1

Student Book pages 66–68

GOAL

Interpret rounded decimals, and round decimals to the nearest tenth.

You will need

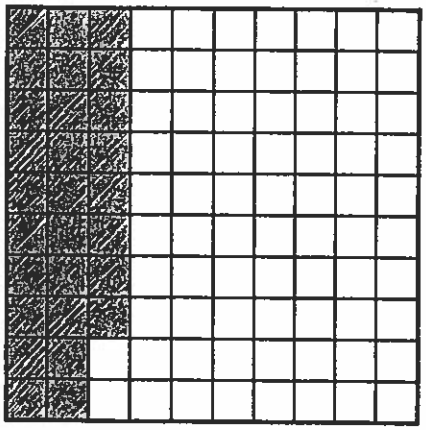
- pencil
- crayons
- hundredths grids

Rachel has a Little League batting average of 0.28.

This means she can expect to get 28 hits in 100 times at bat.

About how many hits would you expect Rachel to get in 10 times at bat?

Rachel modelled 0.28 on a hundredths grid.



A. Did Rachel colour more or less than 3 full columns? _____

Is the part Rachel coloured closer to 2 full columns or 3 full columns?

_____

3 columns are _____ tenths.

B. Round Rachel's batting average to the nearest tenth. 0.__

Rachel will probably get about _____ hits in 10 times at bat.

L Name: _____ Date: _____

2.9 Rounding Decimals Page 2

C. Rachel's batting average is 0.28.

This means that she can expect to get 28 hits in 100 times at bat.

How many hits would Rachel need to get a batting average of 0.30? _____

How many squares would need to be coloured in on a hundredths grid? _____

0.30 = _____ hundredths

Reflecting

Round 0.71 to the nearest tenth. _____

How many full columns would you colour in on a hundredths grid? _____

How many squares in the next column would be coloured in? _____

What does this tell you about rounding 0.71 to the nearest tenth?

_____

_____

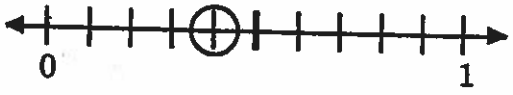
_____

Round each decimal to the nearest tenth.

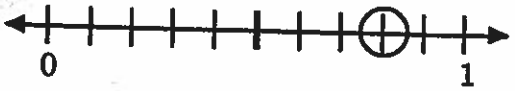
9.	71.15	_____	10.	843.46	_____
11.	37.87	_____	12.	14.91	_____
13.	354.88	_____	14.	210.20	_____
15.	40.54	_____	16.	331.92	_____

Name each point on the number line as a decimal. The first one is done for you.

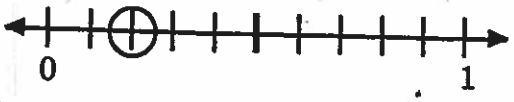
12. 0.4



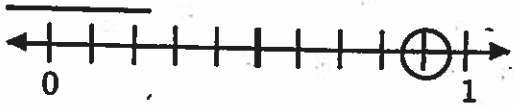
13. _____



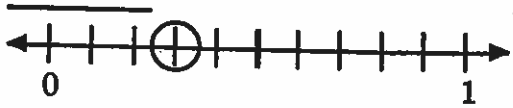
14. _____



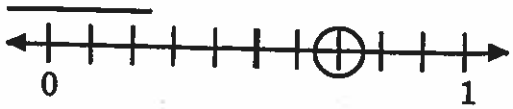
15. _____



16. _____



17. _____



Student Activity

Name: _____

From Fractions to Decimals

Jamal made a fraction train.

$\frac{1}{10}$ of the train is grey. One tenth can also be written as 0.1 .

Name the shaded part of each fraction train as a decimal.

1. $\frac{5}{10}$ _____

2. $\frac{2}{10}$ _____

3. $\frac{9}{10}$ _____

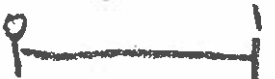
4. $\frac{3}{10}$ _____

5. $\frac{7}{10}$ _____

6. $\frac{4}{10}$ _____

7. $\frac{6}{10}$ _____

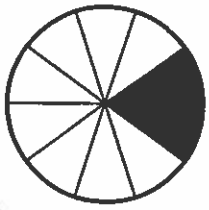
8. $\frac{8}{10}$ _____



Name the shaded part of each fraction circle as a decimal.

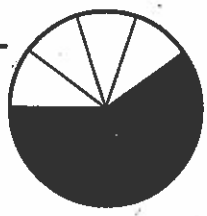
9. _____

$\frac{2}{10}$



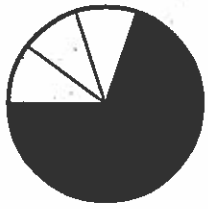
10. _____

$\frac{6}{10}$



11. _____

$\frac{7}{10}$



Name each point on the number line as a decimal. The first one is done for you.

12. 0.4

13. _____

14. _____

15. _____

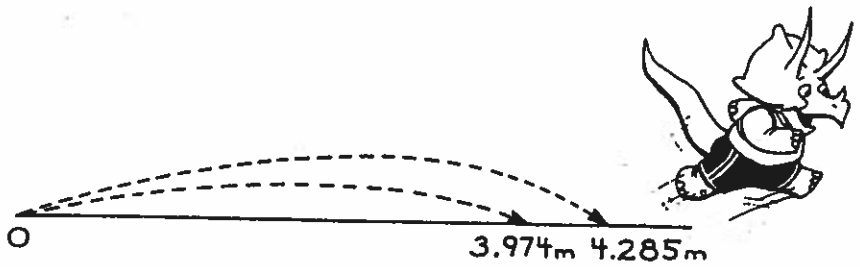
16. _____

17. _____

Rounding Decimal Numbers

Name _____

Jumping Jack made a jump of 3.974 m and a jump of 4.285 m.



Round these lengths to the nearest hundredth.
Look at the thousandths digit when rounding to the nearest hundredth.

The thousandths digit is 4.

3.97(4) Is the thousandths digit less than 5? yes → Round down.

3.974 rounded to the nearest hundredths is 3.97

4.28(5) Is the thousandths digit less than 5? no → Round up.

4.285 rounded to the nearest hundredth is 4.29

Circle the thousandths digit. Tell if you would round up or down to the nearest hundredth.

1. 8.98(2) down
2. 4.163 _____
3. 3.466 _____
4. 6.257 _____
5. 2.115 _____
6. 1.388 _____
7. 5.514 _____
8. 4.373 _____

Round these lengths to the nearest hundredth of a metre.

9. 2.284 2.28
10. 1.631 _____
11. 5.966 _____
12. 6.732 _____
13. 9.483 _____
14. 3.148 _____
15. 2.577 _____
16. 7.047 _____

C&P Name: _____ Date: _____

2.9 Rounding Decimals Page 1

Student Book pages 66–68

Checking

You will need

- pencil
- crayons
- thousandths grids

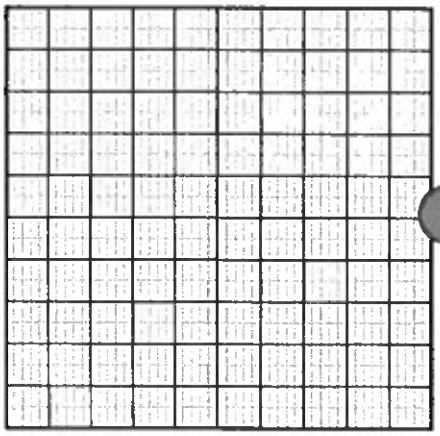
1. The chart on this page shows batting averages for 2 professional baseball players.

Batting averages are reported in decimal thousandths. A batting average of 0.447 means the player can expect to get 447 hits in 1000 times at bat.

Batting Averages

Player	Batting average
J. McDonald	0.447
R. Clayton	0.288

a) Model J. McDonald's batting average of 0.447 on the thousandths grid provided here.



b) Round 0.447 to the nearest hundredth.
0.447 is about _____

c) J. McDonald will probably get about _____ hits in 100 times at bat.

d) Round 0.447 to the nearest tenth.
0.447 is about _____

e) J. McDonald will probably get about _____ hits in 10 times at bat.

f) Round R. Clayton's batting average of 0.288 without using a grid.
Think of 288 as a whole number.
You can round 288 to 290. You can round 0.288 to 0.__ __.
You can round 288 to 300. You can round 0.288 to 0.__.

C&P Name: _____ Date: _____

2.9 Rounding Decimals Page 2

Practising

2. Round each decimal to the nearest hundredth and the nearest tenth.

(Circle) the nearest hundredth and nearest tenth for each decimal in the chart below.

	Decimal	Nearest hundredth		Nearest tenth	
a)	0.158	0.15	0.16	0.1	0.2
b)	0.228	0.22	0.23	0.2	0.3
c)	1.067	1.06	1.07	1.0	1.1
d)	2.039	2.03	2.04	2.0	2.1

3. Which numbers below round to the same hundredth?

0.234 0.324 0.237 0.229

Look at the digits in the tenths place in each number.

Could 0.324 round to the same hundredth as the other 3 numbers? _____

Explain why or why not.

_____

_____

Look at 0.234 and 0.237.

Would you round 0.234 to 0.23 or 0.24? _____

Would you round 0.237 to 0.23 or 0.24? _____

Do these 2 numbers round to the same hundredth? _____

Look at 0.229. Would you round 0.229 to 0.22 or 0.23? _____

Which of the other numbers rounds to the same hundredth? _____

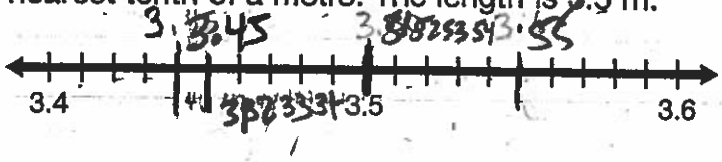
CHAPTER 2
9

Name: _____ Date: _____

Rounding Decimals

Goal **Interpret rounded decimals, and round decimals to the nearest whole and to the nearest tenth.**

1. Sarah rounded the length of her room to the nearest tenth of a metre. The length is 3.5 m.



a) Write the numbers that round up from 3.4 to 3.5.

_____

_____

b) Write the numbers that round down to 3.5.

_____

_____

At-Home Help

Decimal numbers can be rounded to the nearest whole number and the nearest tenth.

For example,

- 2.76 rounds up to 2.8
- 2.83 rounds down to 2.8

A number line helps with rounding.

Both 2.76 and 2.83 round up to 2.8.

2. Lori needs 4.47 m of ribbon for a school play.

a) How much ribbon should she buy if ribbon is sold in lengths of whole metres?

_____

b) How much ribbon should she buy if ribbon is sold in lengths of tenths of a metre?

_____

3. Round each number to the nearest whole number and the nearest tenth.

a) 3.65 **b)** 7.03 **c)** 0.79 **d)** 7.93

_____ _____ _____ _____

_____ _____ _____ _____

4. A gardener needs 8.74 m of hose to water a lawn.

a) Round that length to the nearest tenth of a metre. _____

b) Should he buy a hose of that length or a different length? Explain.

_____

5. A number rounded to the nearest tenth is 7.9. What might the number be? List three possibilities.

_____

Name: _____ Date: _____

Chapter 2 Lesson 9

Rounding Decimals

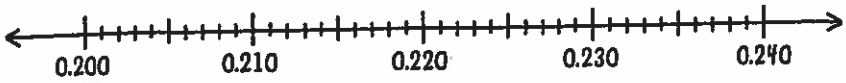
GOAL

Interpret rounded decimals, and round decimals to the nearest tenth or the nearest hundredth.

1. Round each decimal to the nearest hundredth. Use the number line to help you.

a) 0.239 _____ **c)** 0.224 _____

b) 0.213 _____ **d)** 0.207 _____



At-Home Help

You can round decimals to the nearest hundredth or to the nearest tenth.

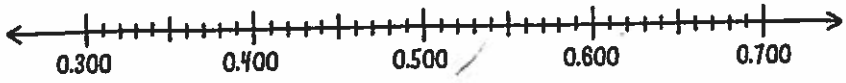
For example, round 0.574 to the nearest hundredth and tenth.

- nearest hundredth: 0.57
- nearest tenth: 0.6

2. Round each decimal to the nearest tenth. Use the number line to help you.

a) 0.420 _____ **c)** 0.385 _____

b) 0.570 _____ **d)** 0.612 _____



3. Taylor surveyed 1000 students at her school. These are her results:

- 549 students have cats
- 304 students have dogs
- 118 students have fish

a) Out of 100 students, about how many have cats? about _____ students

b) Out of 100 students, about how many have dogs? about _____ students

c) Out of 100 students, about how many have fish? about _____ students

4. Circle the numbers that round to 2.78 if you are rounding to the nearest hundredth.

2.783 2.787 2.778 2.786 2.773 2.777