
NEW JERSEY CENTER
FOR TEACHING & LEARNING
Progressive Mathematics Initiative®
This material is made freely available at www.njctl.org and is intended for the non-commercial use of students and teachers. It may not be used for any commercial purpose without the written permission of NJCTL.
We, at the New Jersey Education Association, are proud founders and supporters of NJCTL, an independent non-profit organization with the mission of empowering teachers to lead school improvement for the benefit of all students.
njea

NEW JERSEY CENTER
FOR TEACHING & LEARNING

5th Grade

Decimal Concepts

2015-11-16

www.njctl.org

Table of Contents

Click on a topic
to go to that section.

Teacher Notes

What is a Decimal?

Return to Table of Contents

Decimals

What is a **decimal number**?

Click to find out!

Where do we see decimals being used?

Click on the photo to find out!

And many other places!

Why do we need decimals?

Decimals are used in situations when more precision is needed.

For instance, when two people cross the finish line, someone will win by a fraction of a second. We show those fractions as decimals.

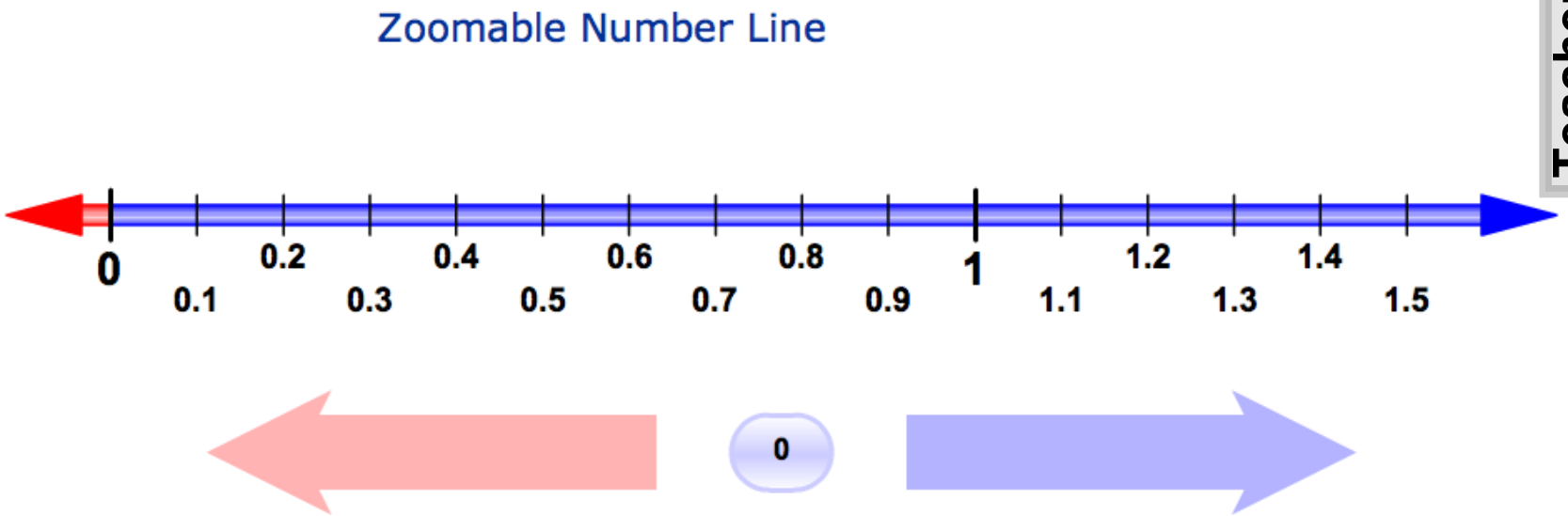
If you are spending money, many things are not worth an exact dollar amount.

Math Practice

Decimals on a Number Line

Lets take a look at decimals on a number line.

Click on the picture below for an interactive number line.



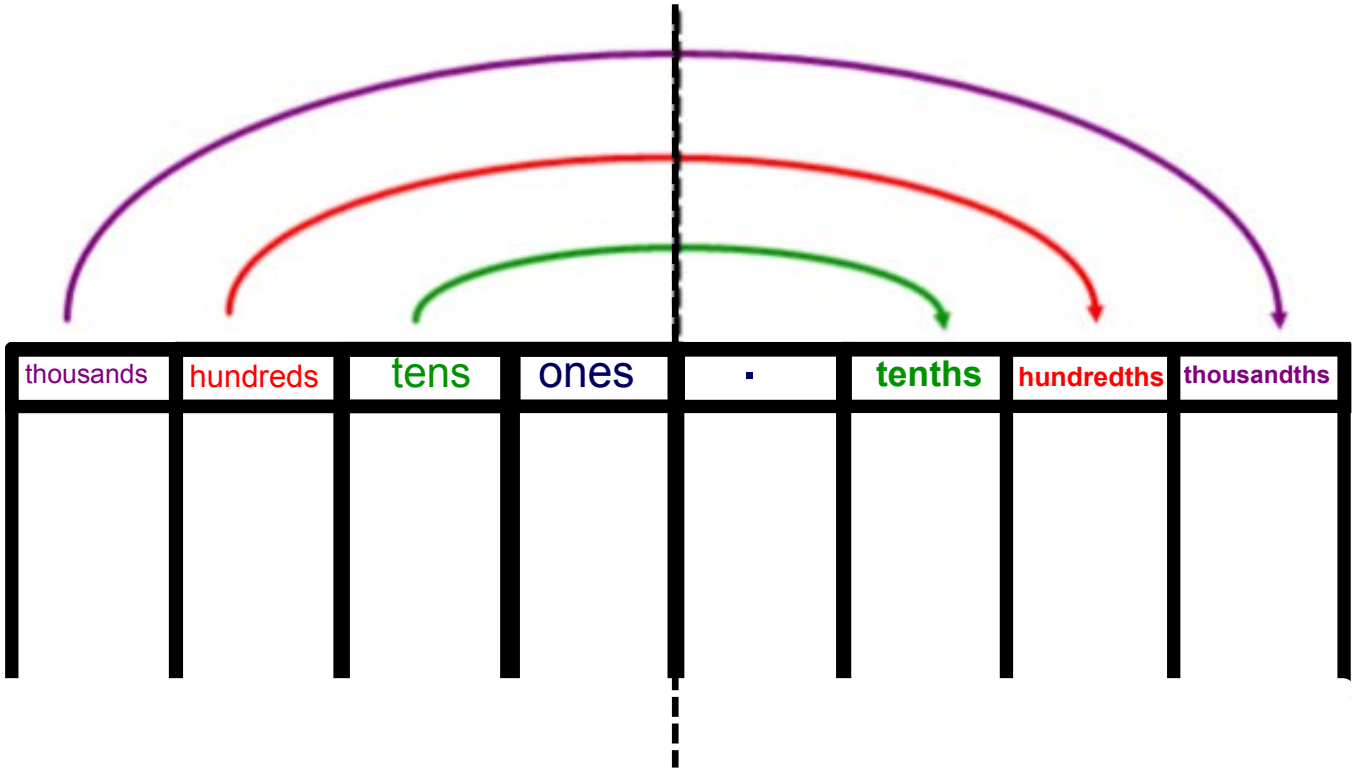
Teacher Notes

Identify Place Values

Return to Table of Contents

Place Value Chart

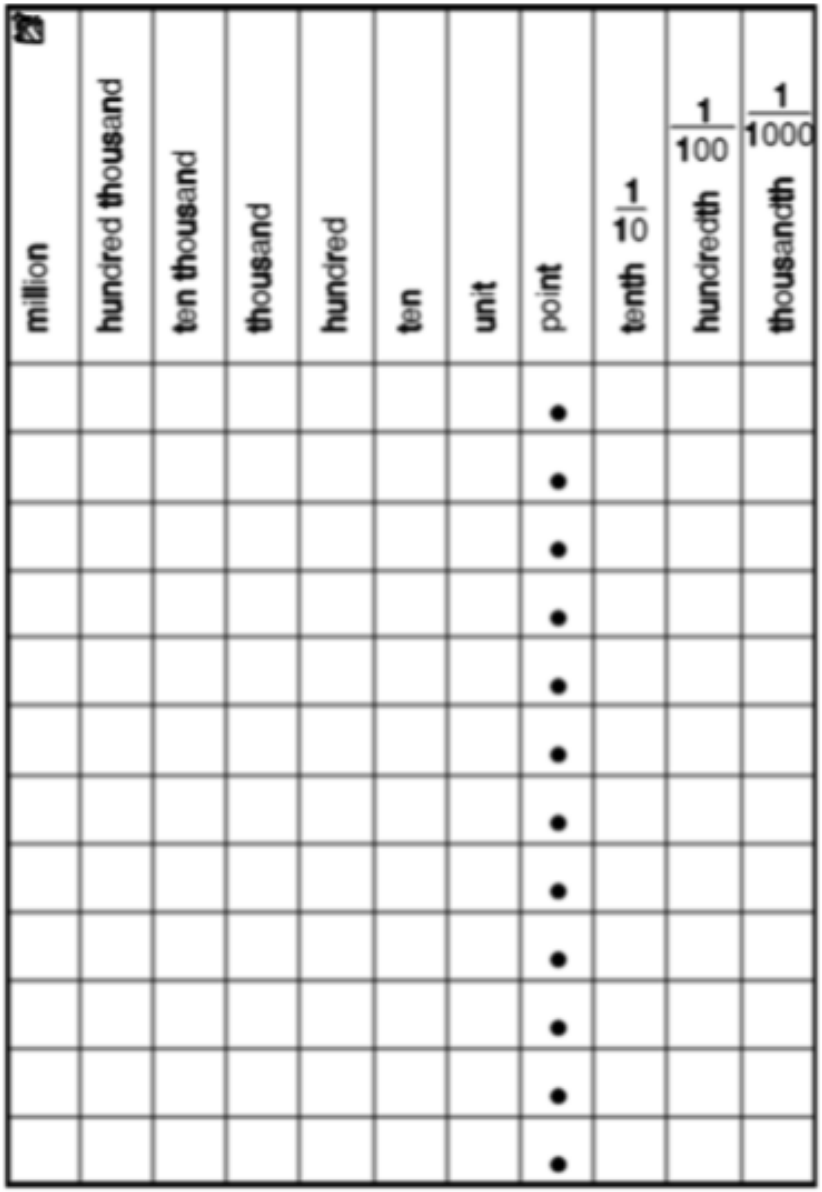
Our **place value** chart is *almost* like a mirror image, with a line between the ones place and the decimal point.



Everything to the left ends in "s" and everything to the right ends in "ths"

Teacher Notes

Place Value Chart



Teacher Notes

1 What digit is in the thousandths place?

987,654.0123

Answer

A 7

B 2

C 3

D 8

2 What digit is in the tenths place?

987,654.0123

Answer

A 1

B 4

C 0

D 5

3 What digit is in the hundredths place?

987,654.0123

A 5

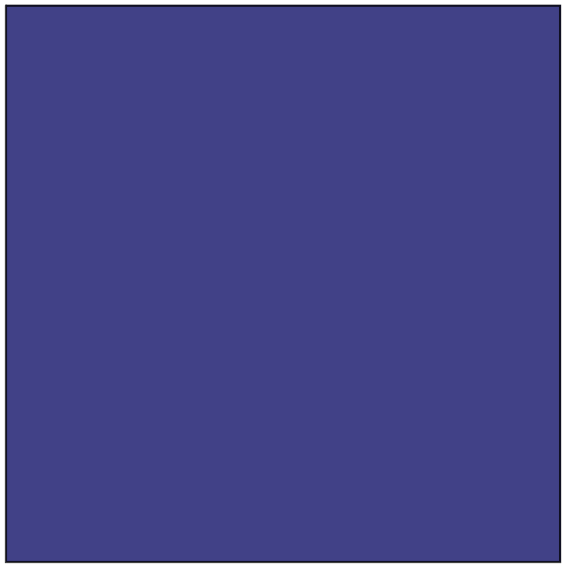
B 0

C 1

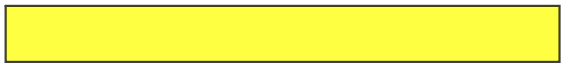
D 2

Answer

Tenths



Blue Block
One **Unit**
(1)



Yellow Rod

How many yellow rods
are needed to fill the blue block?

click

What is the value of a yellow rod?

click

Teacher Notes

Money and Decimals

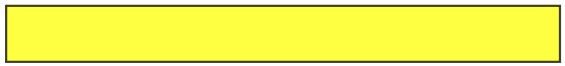
Think of it in terms of money.

How many dimes does it take to make a dollar?

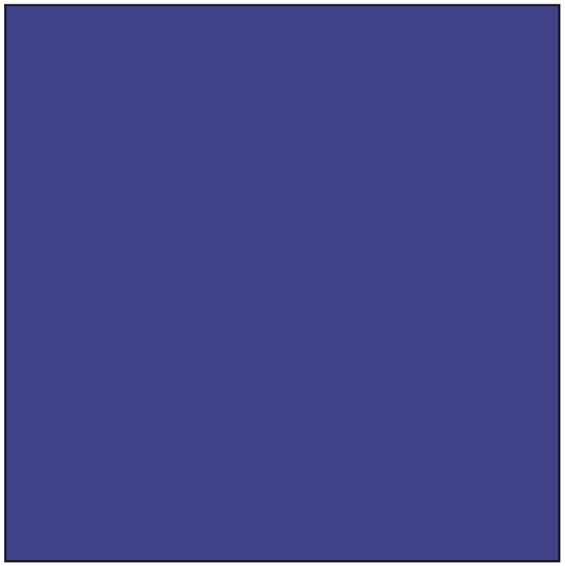
_____ dimes = 1 dollar

So, a dime is one tenth of a whole dollar.

Hundredths



Yellow Rod



Blue Block
One Unit
(1)

Red Block

How many red blocks are needed to fill the blue block?

click

(Hint: Fill a yellow rod with red blocks)

What is the value of a red block?

click

Teacher Notes

Money and Decimals

Think of it in terms of money.

How many pennies does it take to make a dollar?

_____ pennies = 1 dollar

So, a penny is one hundredth of a whole dollar.

Money and Decimals

So a dollar is a whole.

A dime is a tenth.

And a penny is a hundredth.

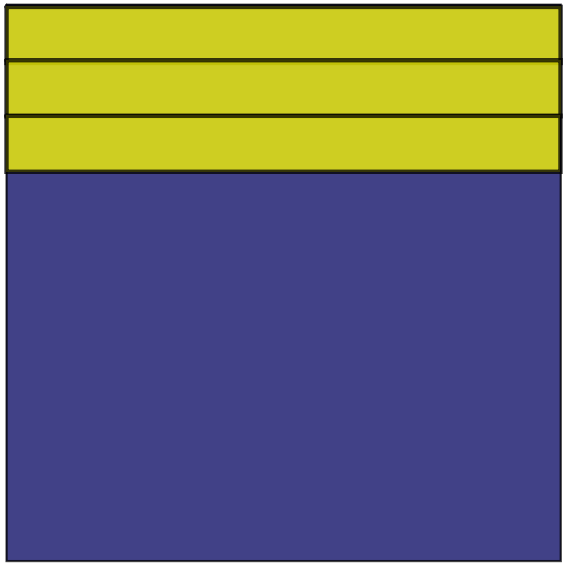
one	.	tenth	hundredth	
				

What if we had a coin that was smaller than a penny?

How many times smaller than a penny do you think it would be?

What would you call it?

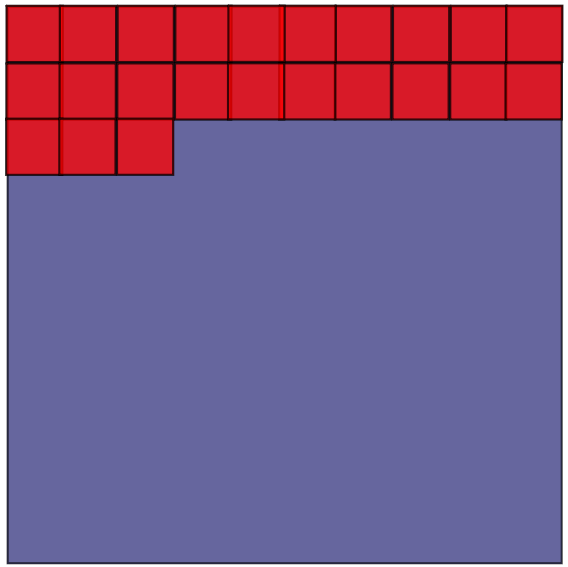
Representing Units



3 yellow rods = 0.3
three tenths

Blue = One Unit

Representing Units



23 red blocks = 0.23
twenty three hundredths

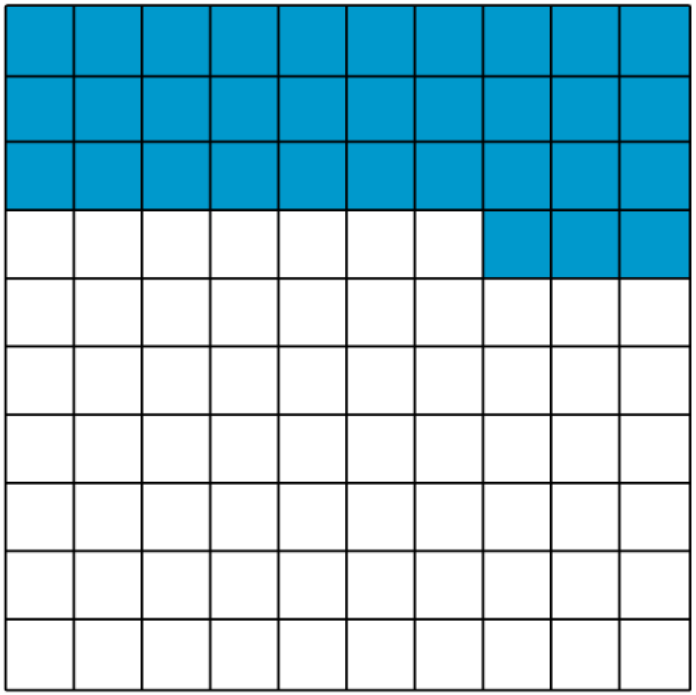
Blue = One Unit

Interactive Number Grid - Use to Show Decimals

Click to Go to Interactive Site

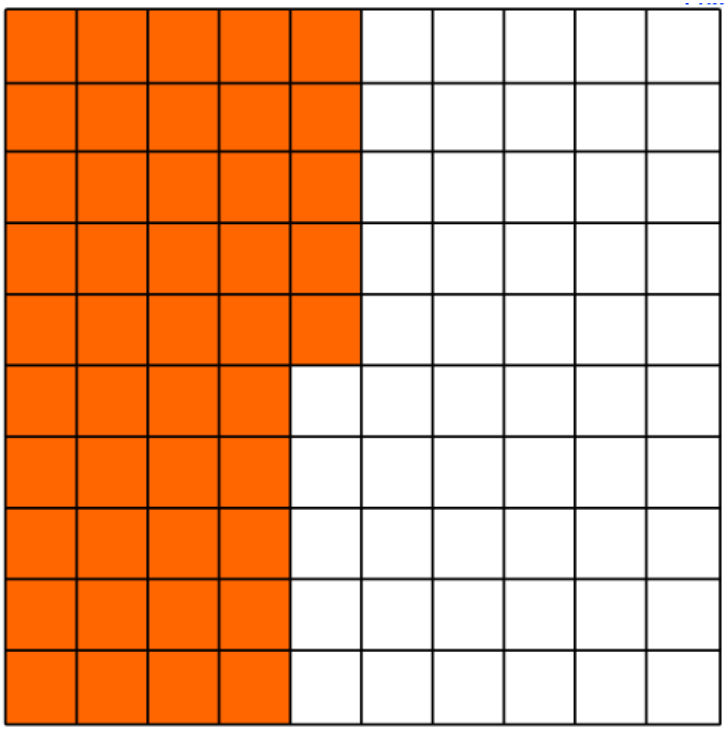
Teacher Notes

4 If the square equals one whole, what does the shaded area represent?



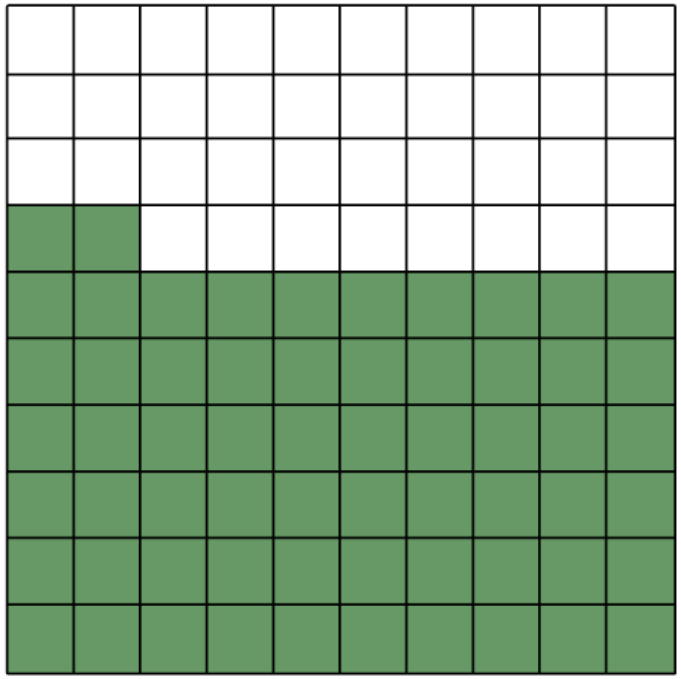
Answer

5 If the square equals one whole, what does the shaded area represent?



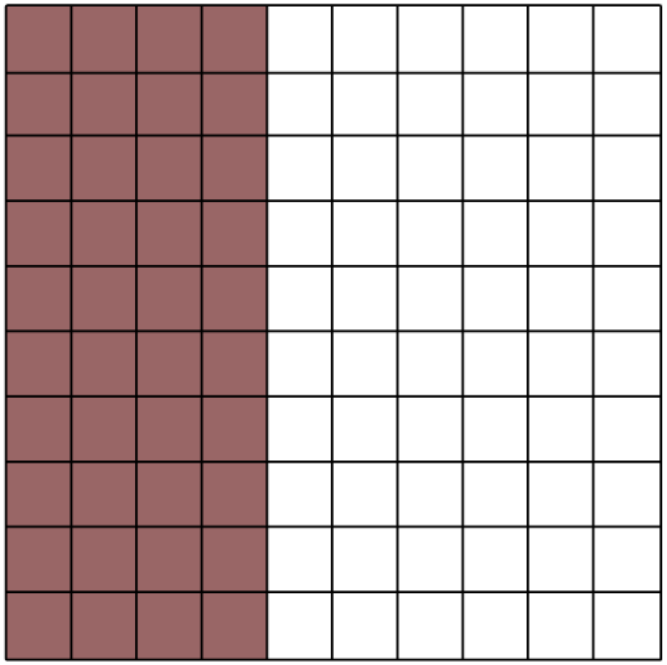
Answer

6 If the square equals one whole, what does the shaded area represent?



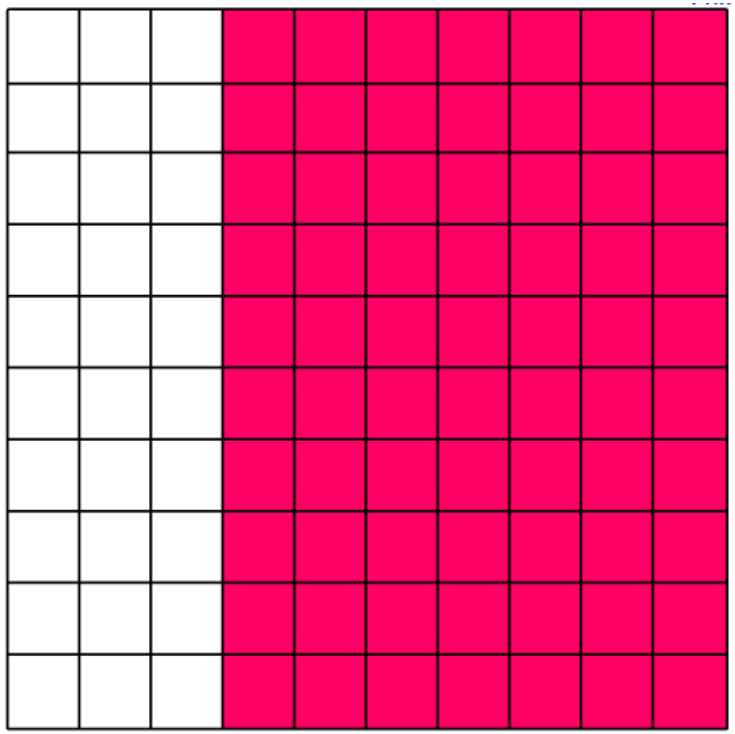
Answer

7 If the square equals one whole, what does the shaded area represent?



Answer

8 If the square equals one whole, what does the shaded area represent?



Answer

Money and Decimals

Lets look at place value using money again.

thousands	hundreds	tens	ones	.	tenth	hundredth	
					 dime	 penny	

_____ pennies = 1 dime

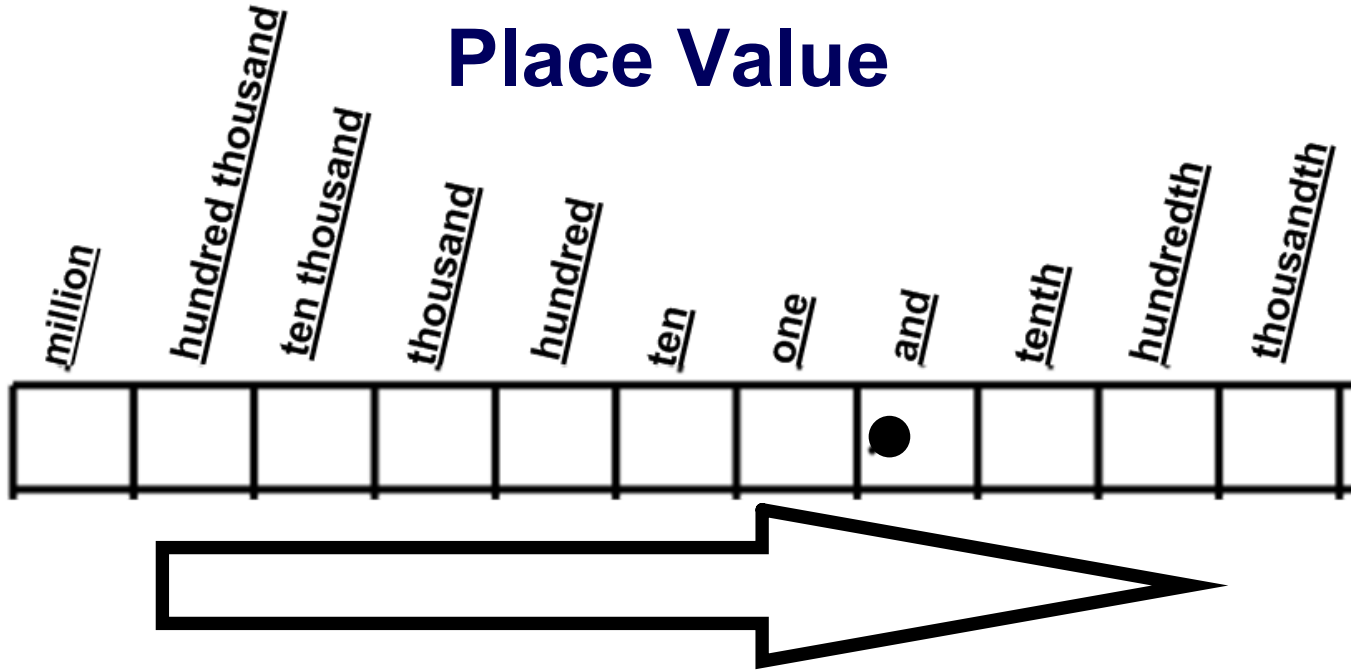
_____ dimes = 1 dollar bill

_____ 1 dollar bills = 1 ten dollar bill

_____ ten dollar bills = 1 hundred dollar bill

What do you notice about place value?

Place Value



Math Practice

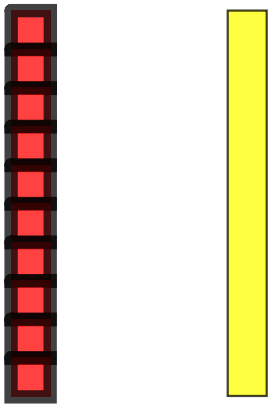
As you look at the place value chart, how many times does the value of the number decrease as you go to the right?

Click to reveal

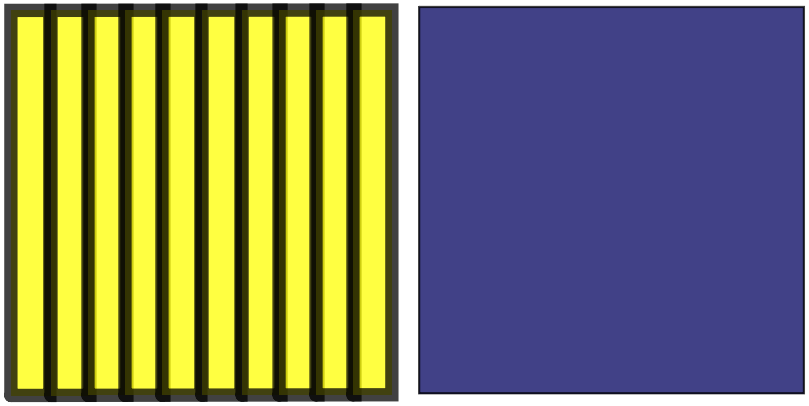
Representing Units

Lets take a closer look at what happens as we move to the left on the place value chart.

10 ones = ten



10 tens = 1 hundred



one x 10 = ten x 10 = 1 hundred x 10 = 1 thousand...

Teacher Notes

Money and Decimals

Lets look at place value using money again.

thousands	hundreds	tens	ones	.	tenth	hundredth	
					 dime	 penny	

A hundred dollars is ____ times as much as ten dollars

A ten dollars is ____ times as much as a dollar

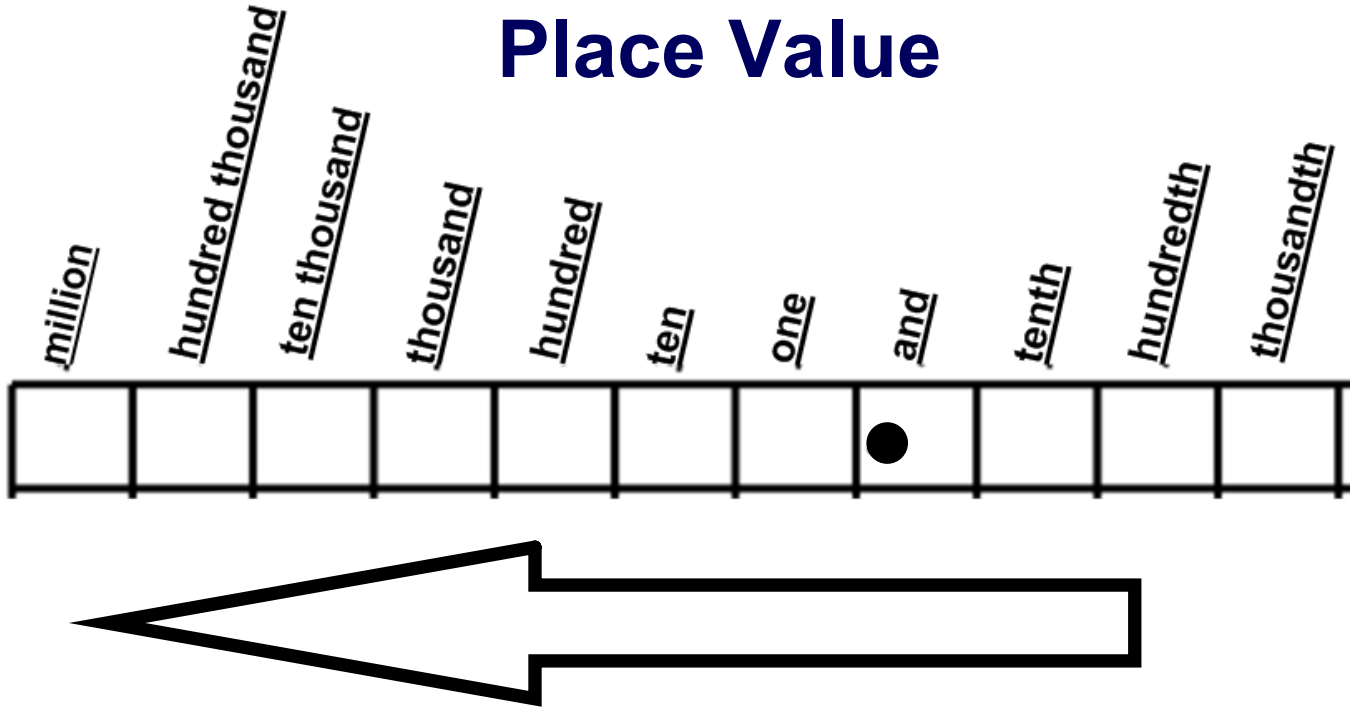
A dollar is ____ times as much as a dime

A dime is ____ times as much as a penny

What do you notice about place value?

Math Practice

Place Value



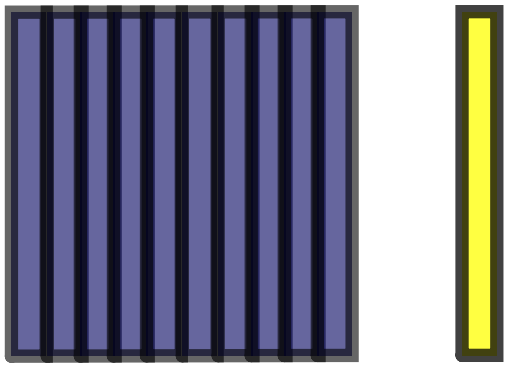
As you look at the place value chart, how many times does the value of the number increase as you go to the left?

Click to reveal

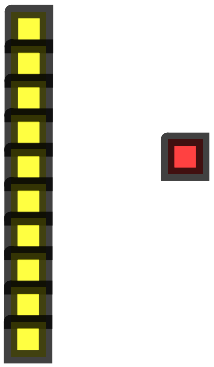
Representing Units

Lets take a closer look at what happens as we move to the right on the place value chart.

1 hundred ÷ 10 = ten



ten ÷ 10 = one

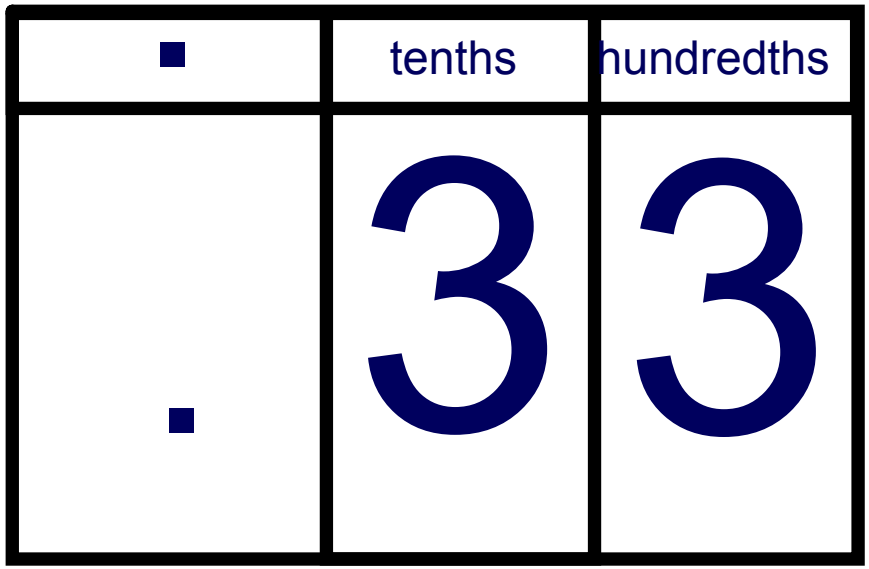


1 thousand ÷ 10 = 1 hundred ÷ 10 = ten ÷ 10 = 1

Teacher Notes

Place Value

Lets use place value to compare decimal #s.



standard form

word form thirty-three hundredths

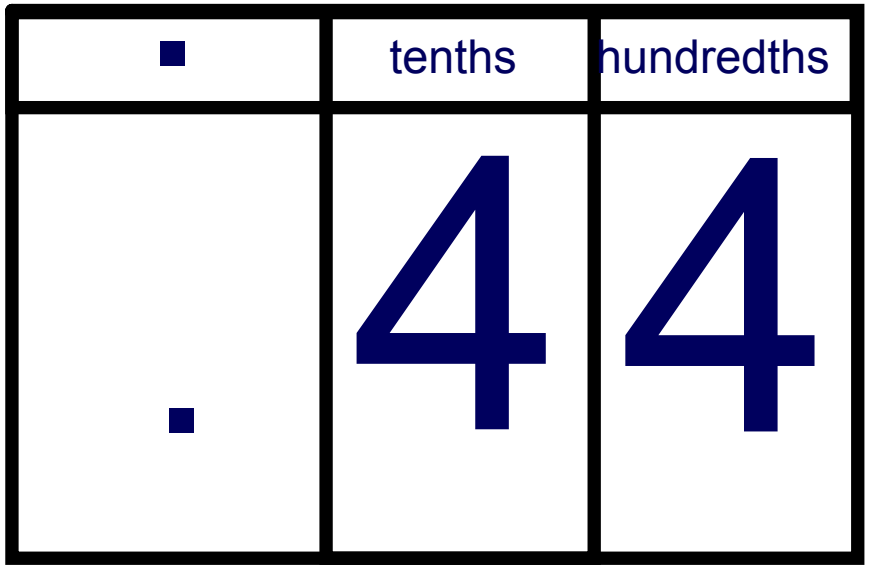
expanded form 0.3 + 0.03

The 3 in the tenths place is ten times as much as the 3 in the hundredths place.

Teacher Notes

Place Value

standard form



word form forty-four hundredths

expanded form 0.4 + 0.04

The 4 in the hundredths place is
one tenth the 4 in the tenths place.

9 In the number 3.33, the digit in the tenths place is one tenth of the digit in the hundredths place.

True

False

Answer

10 In the number 11.111, the digit in the thousandths place is one tenth of the digit in the _____ place.

A ones

B tenths

C hundredths

Answer

11 A digit in the ones place is 100 times as much as a digit in the _____ place.

A ones

B tenths

C hundredths

Answer

12 The value of the 6 in 26.495 is _____ the value of the 6 in 17.64.

A 1/10

B 10 times

C 1/100

D 100 times

Answer

From PARCC EOY sample test #18

13 The value of the 3 in 0.931 is _____ the value of the 3 in 0.384

A 1/10

B 10 times

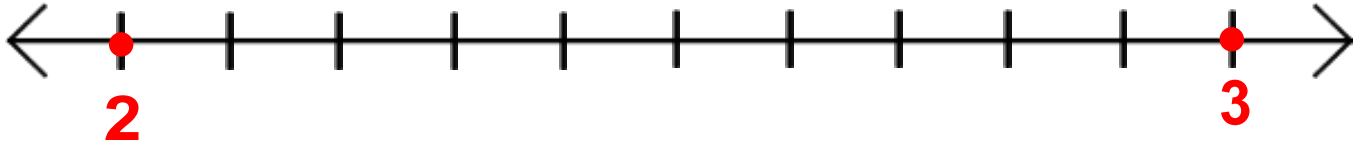
C 1/100

D 100 times

Answer

From PARCC EOY sample test #18

Decimals on the Number Line

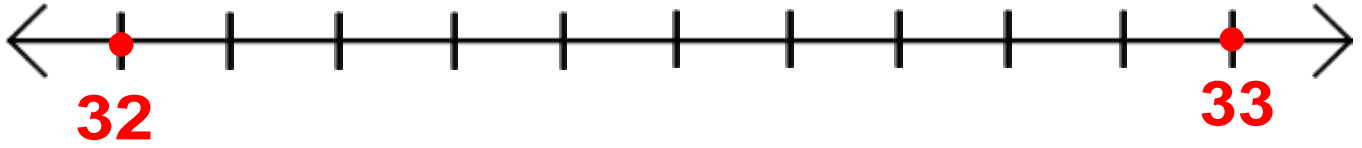


What does each line, between the whole numbers 2 and 3, represent on this number line ?

Label the number line.

Teacher Notes

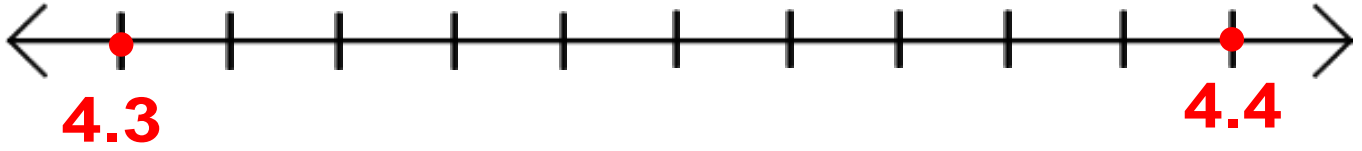
Decimals on the Number Line



What does each line, between the whole numbers 32 and 33, represent on this number line ?

Label the number line.

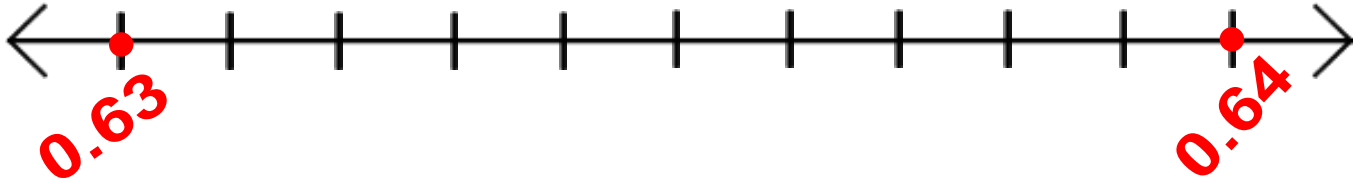
Decimals on the Number Line



What does each line, between the decimal numbers 4.3 and 4.4, represent on this number line ?

Label the number line.

Decimals on the Number Line



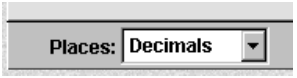
What does each line, between the decimal numbers 0.63 and 0.64, represent on this number line?

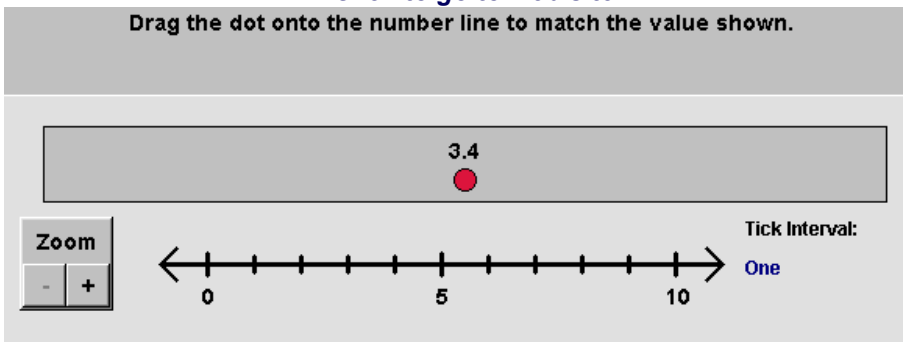
Label the number line.

National Library of Virtual Manipulatives

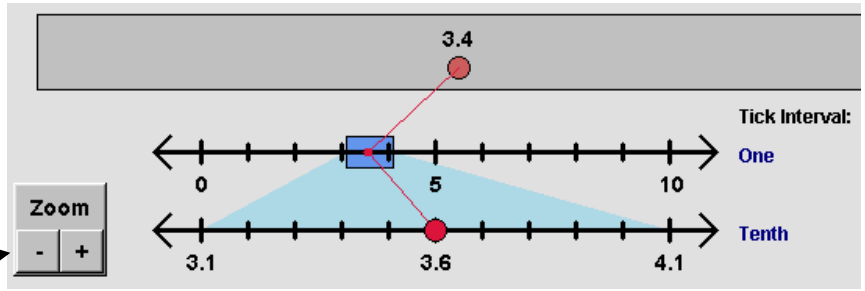
Click to go to web site.

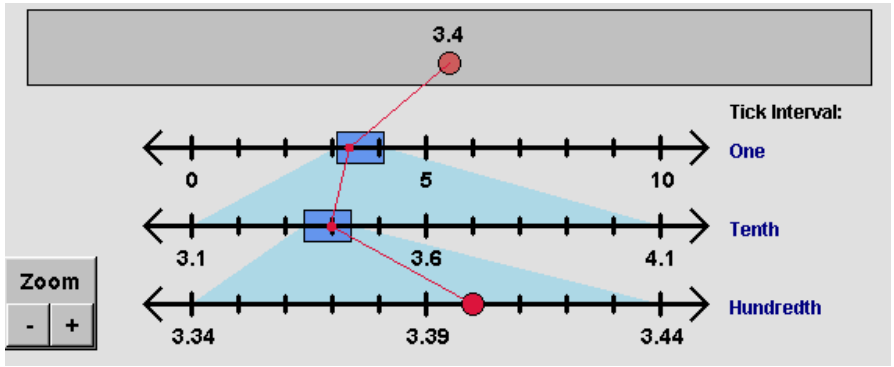
Change Places to "Decimals" at the bottom left.



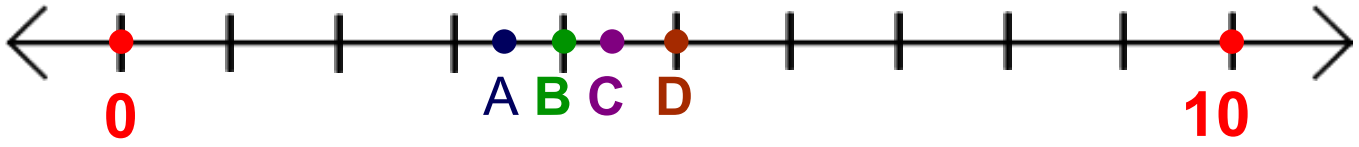


Zoom in to drag the dot more precisely.



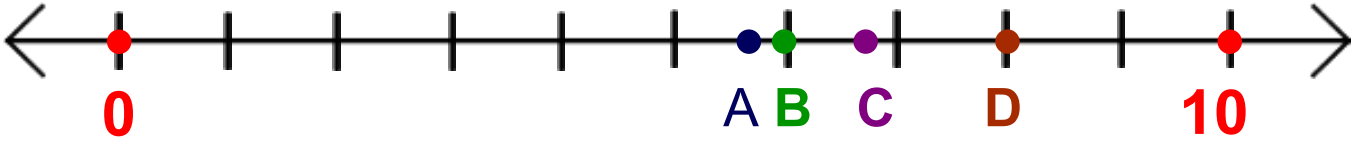


14 Which letter corresponds to the number **4.4** on this number line?



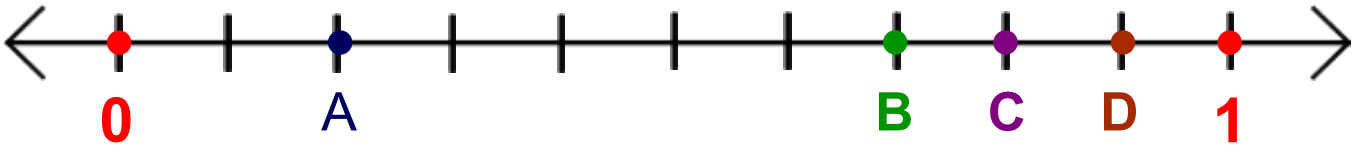
Answer

15 Which letter corresponds to the number **6.8** on this number line?



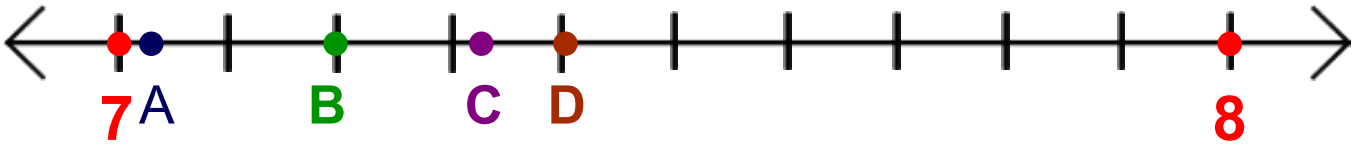
Answer

16 Which letter corresponds to the number **0.8** on this number line?



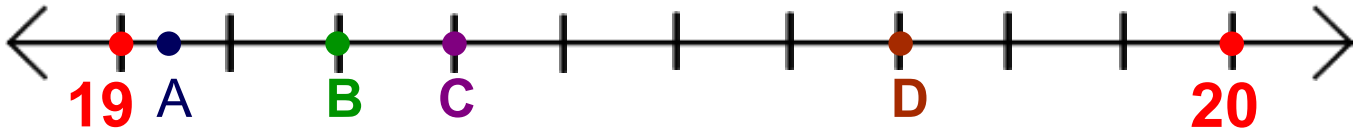
Answer

17 Which letter corresponds to the number **7.2** on this number line?



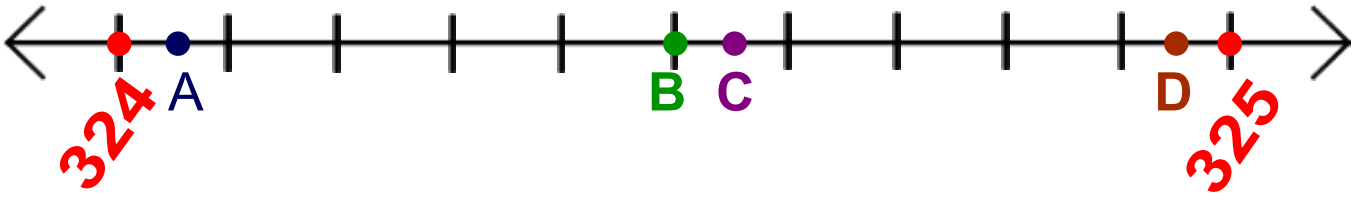
Answer

18 Which letter corresponds to the number **19.3** on this number line?



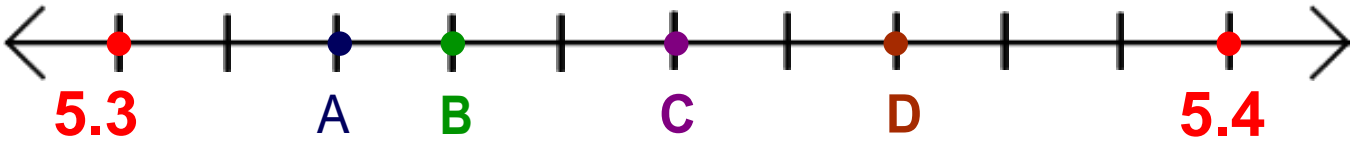
Answer

19 Which letter corresponds to the number **324.5** on this number line?



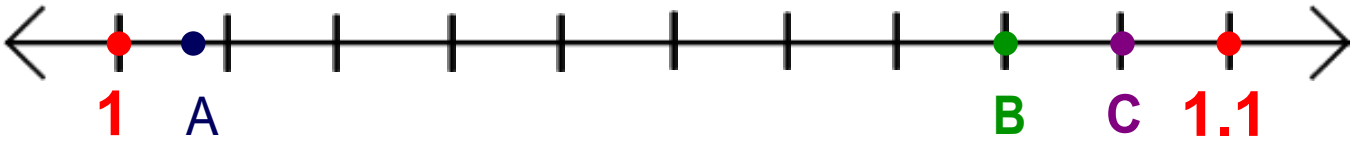
Answer

20 Which letter corresponds to the number **5.35** on this number line?



Answer

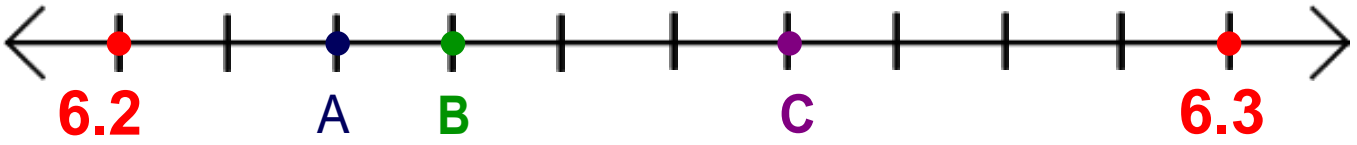
21 Which letter corresponds to the number **1.08** on this number line?



Answer

D Not plotted on this number line

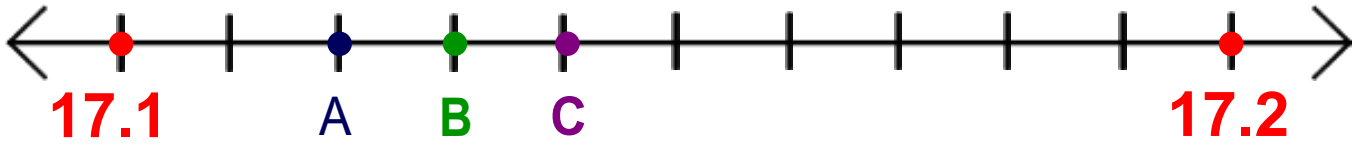
22 Which letter corresponds to the number **6.23** on this number line?



Answer

D Not plotted on this number line

23 Which letter corresponds to the number **17.4** on this number line?



Answer

D Not plotted on this number line

Read & Write Decimals

Return to Table of Contents

In this unit, we will be working with numbers written in standard, word, and expanded form.

Lets review each.

Word Form

Word form is simply the number written using words instead of digits, commas, and a period when needed.

1		$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1,000}$
ones	■	tenths	hundredths	thousandths
3	and	0	4	
2	and	3	5	1
	and	8		

Word Form

three and four hundredths

---

two and three hundred fifty-one thousandths

---

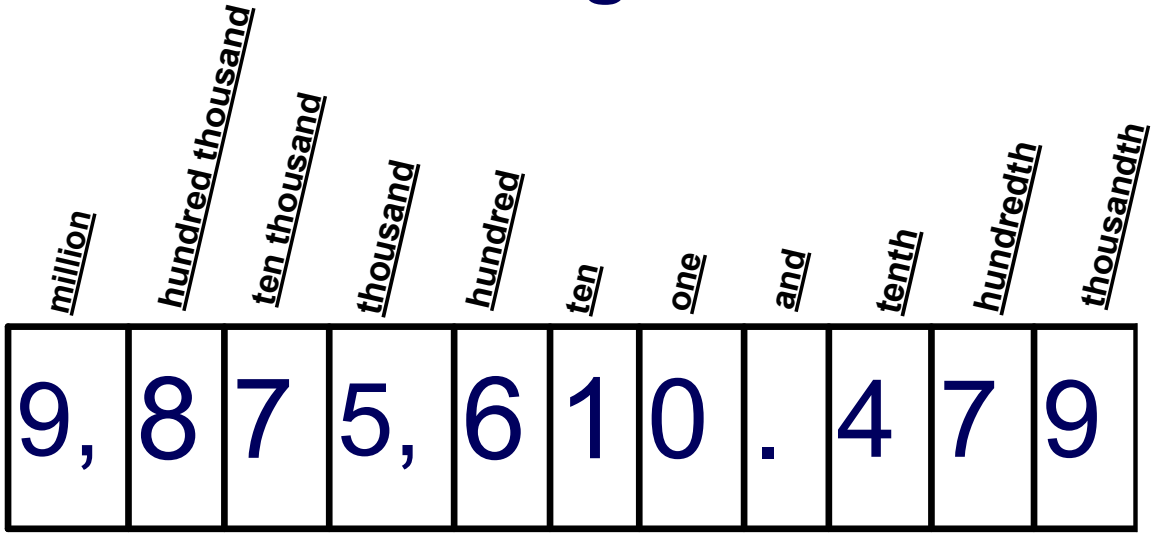
eight tenths

Reading Decimals

To read decimal numbers we:

1. Read the number to the left of the decimal
2. Say "and" for the period
3. Read the number to the right of the decimal
4. State the place value of the last digit.

Reading Decimals



This number is read:

Nine million, eight hundred seventy-five thousand, six hundred ten AND four hundred seventy-nine thousandths

Remember the place values after the decimal point start with tenths

Can You Read the Number?

thousands	hundreds	tens	ones	and	tenths	hundredths	thousandths
			0	.	0	7	
	5	4	6	.	2	5	9
			8	.	3		
			0	.	8	9	
			0	.	0	1	1
2	3	5	4	.	6		
			9	.	7		

Dice Reading

Click on the the dice, and then read the number.

Teacher Notes

Writing Decimals in Words

1. Look to see if there is a number to the left of the decimal; if so write it out. If there is no number to the left of the decimal, skip to step 3.
2. Write an *and* for the decimal point.
3. Write the number in the decimal part.
4. Write the word for the place value of the rightmost digit.

Write 13.24 in words

Click to reveal

Click to reveal

Writing Decimals

How does a comma help when writing a decimal number?

The place value before the comma is always stated.

For example:

1,547 is written
One THOUSAND, five hundred forty-seven

6,547,100 is written
6 MILLION, five hundred forty-seven THOUSAND,
one hundred

Write the Decimal in Words

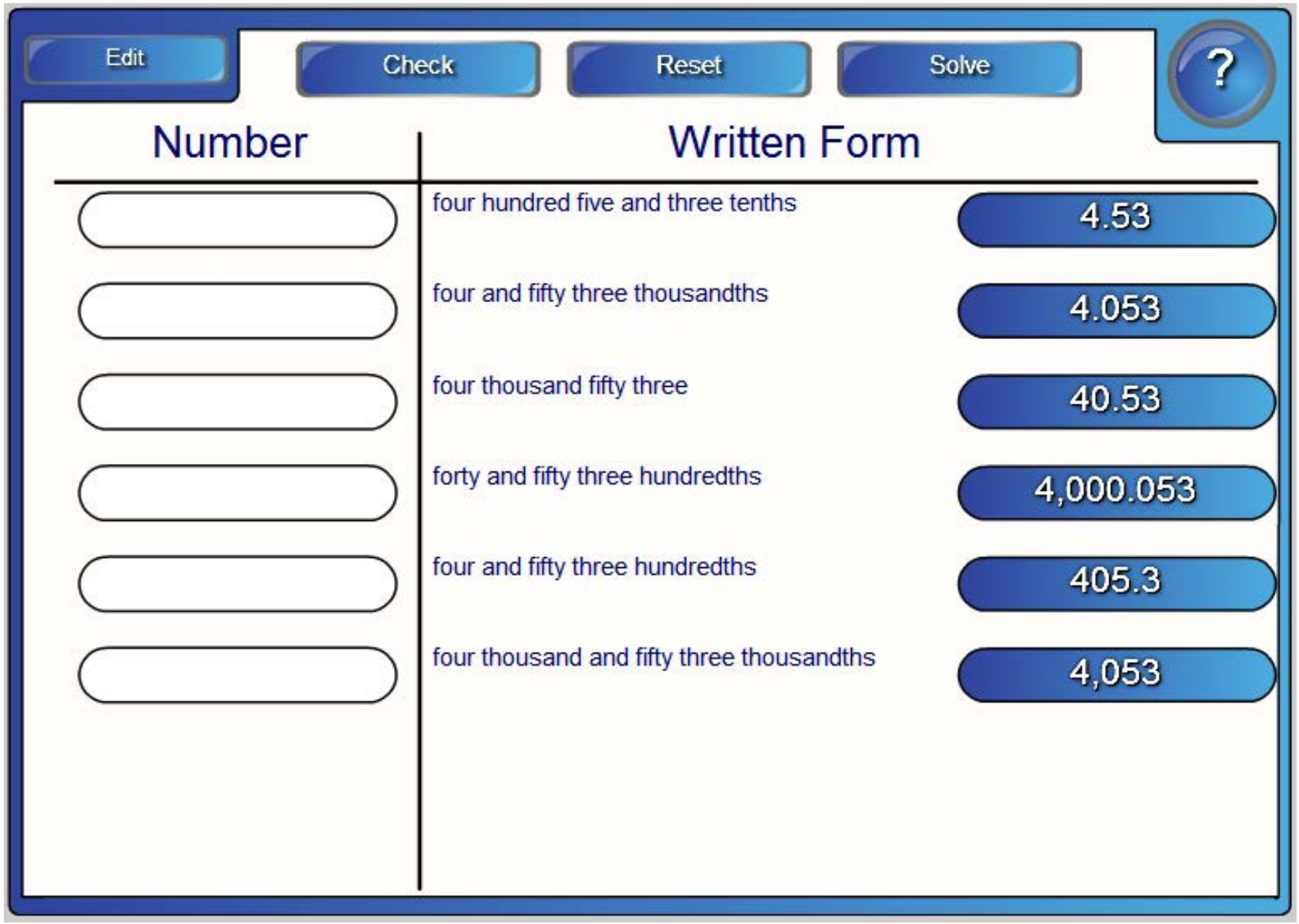
1) 5.04 Five and four hundredths

2) 146.457 One hundred forty-six and four hundred fifty-seven thousandths

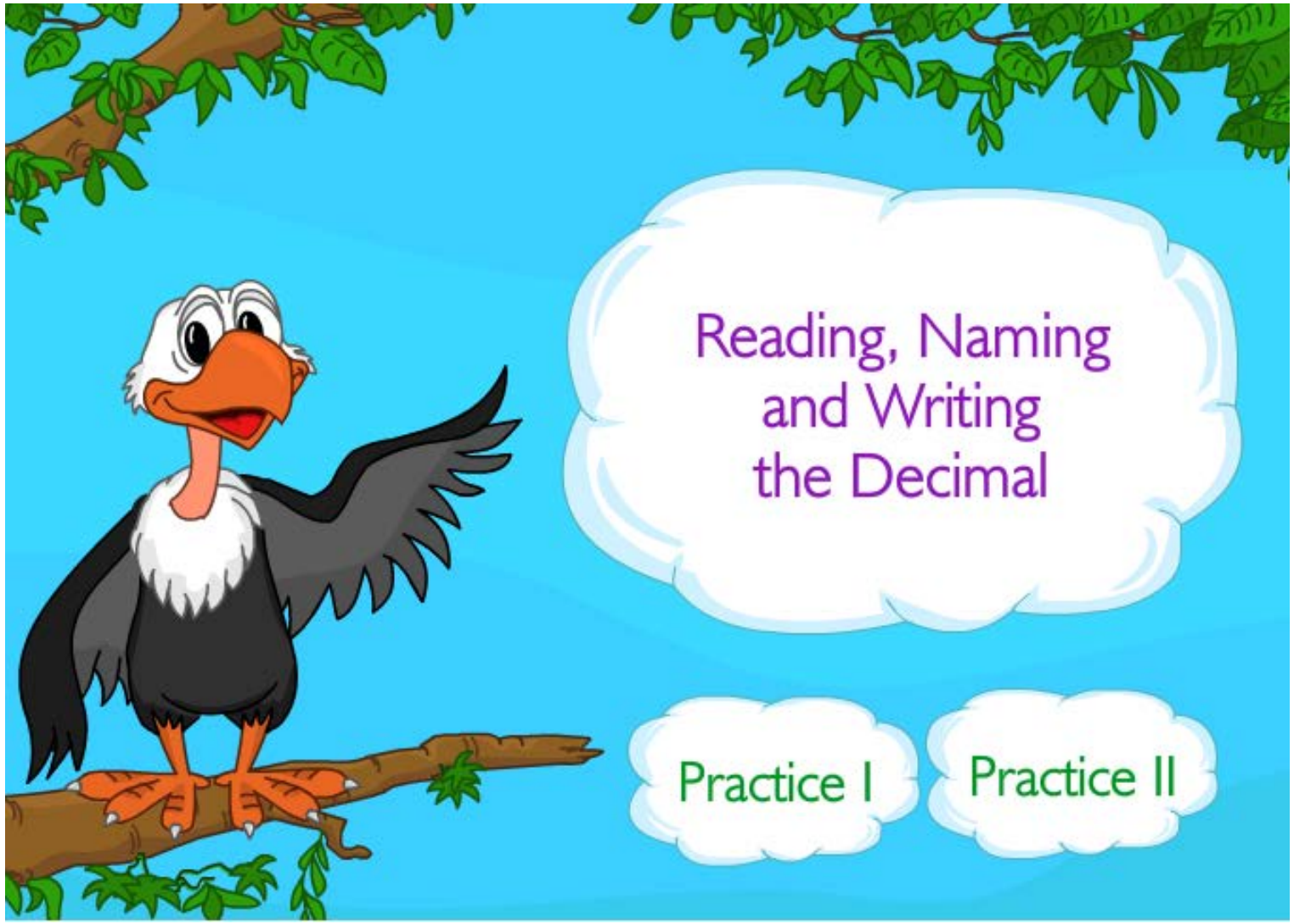
3) .0009 Nine ten-thousandths

4) 6,345.149 Six thousand, three hundred forty-five and one hundred forty-nine thousandths

Math Practice


Edit
Check
Reset
Solve
?
Number
Written Form
four hundred five and three tenths
4.53
four and fifty three thousandths
4.053
four thousand fifty three
40.53
forty and fifty three hundredths
4,000.053
four and fifty three hundredths
405.3
four thousand and fifty three thousandths
4,053

Web Site Practice



Teacher Notes

24 What is 4.36 in word form?

A four and thirty-six

B four and thirty-six tenths

C four, thirty-six

D four and thirty-six hundredths

Answer

25 What is 63.067 in word form?

A sixty-three and sixty-seven hundredths

B sixty-three and sixty-seven thousandths

C sixty-three and sixty-seven

D sixty-three, sixty-seven thousandths

Answer

26 What is 0.419 in word form?

A zero and four hundred nineteen

B four hundred nineteen hundredths

C four hundred nineteen thousandths

D four one nine

Answer

27 What is 0.09 in word form?

A nine and nine

B nine hundredths

C nine and nine hundredths

D nine and zero nine tenths

Answer

28 What is 407.021 in word form?

A four zero seven zero two one

B four hundred seven twenty-one

C four hundred seven and twenty-one thousandths

D four hundred seven and twenty-one hundredths

Answer

Standard Form

Standard form is the way we usually see numbers written, using digits, commas and a period when needed.

Standard Form

10.88 0.387

92.3 6.91

Standard Form

1. If there is a *ths*, there will be a decimal

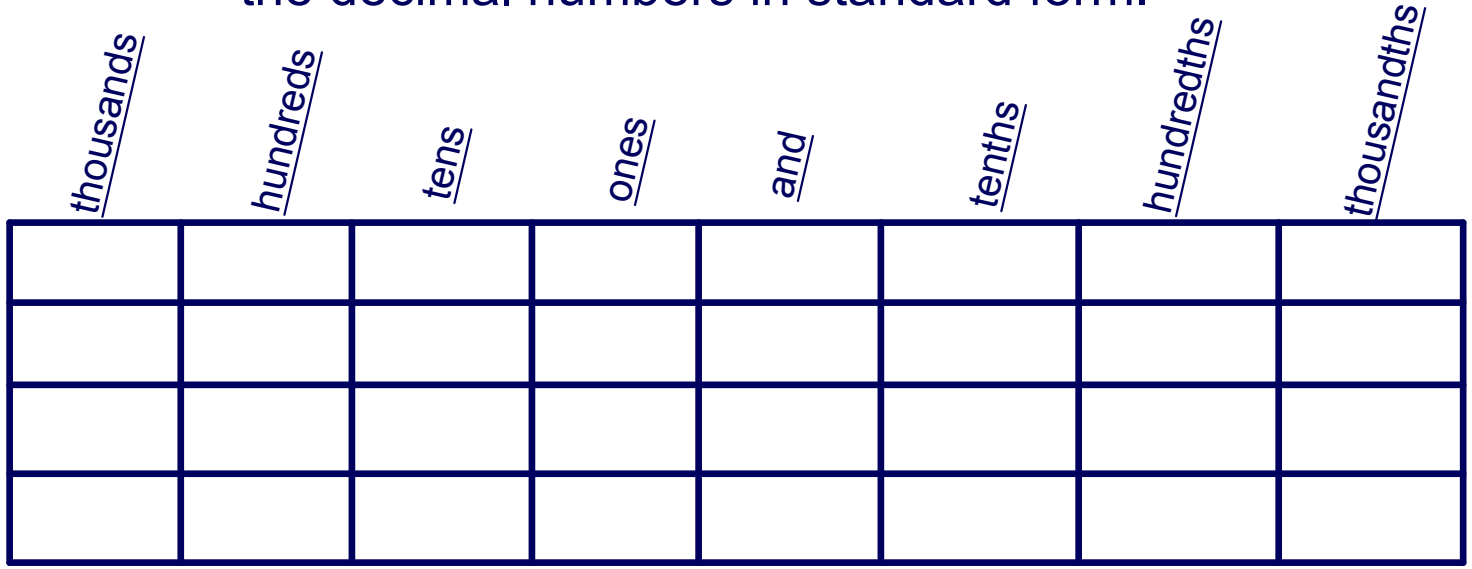
2. If there is an *and*, there will be a whole number to the left of the decimal

3. Note the ending - this is the place where the decimal number will end

4. Use the decimal chart to help you!

Standard Form Chart

Use the chart as a guide to write
the decimal numbers in standard form.



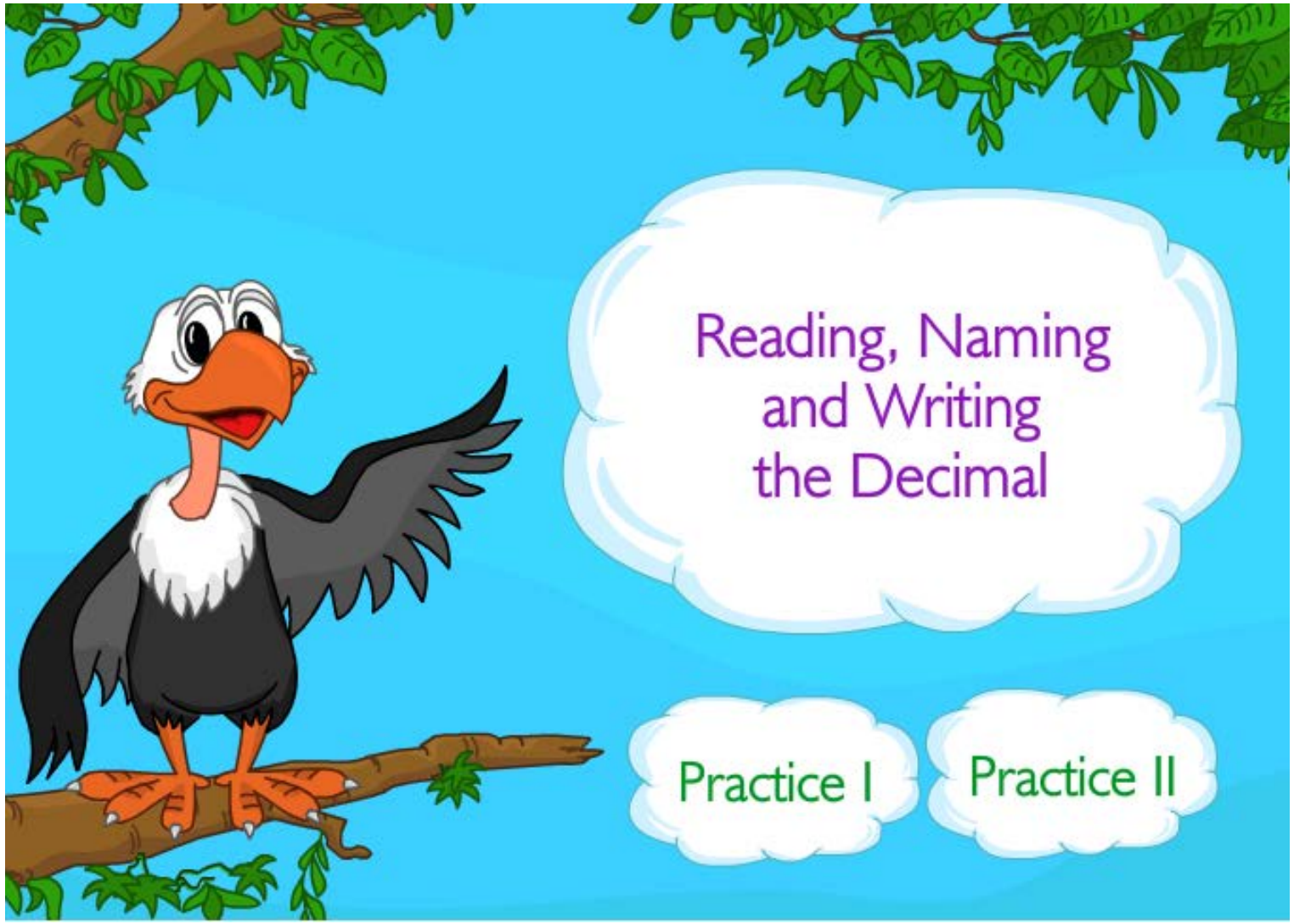
1. two hundred sixteen and 2 tenths

2. thirty-two and nine thousandths

3. four thousand, five hundred six and twenty-four hundredths

4. nine hundred and eight hundredths

Web Site Practice



Teacher Notes

29 What is fifty-two and eighteen hundredths?

A 52,18

B 52.018

C 52.18

D 52.0018

Answer

30 What is five thousand, fifty and five hundredths?

A 550.5

B 5,050.5

C 5,050.05

D 5,500.05

Answer

31 What is six hundred three and four thousandths?

A 603.4

B 603.004

C 603.04

D 603.0004

Answer

32 What is thirty-four hundredths?

A 340

B 34

C 0.34

D 0.034

Answer

33 What is four hundred ninety-five thousandths?

A 495

B 495.000

C 0.0495

D 0.495

Answer

Expanded Form

To write a number in expanded form, the number is written as a sum of the value of each digit.

Place value charts make it easy to write numbers in expanded form, because it helps us see the value of each digit.

1		$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1,000}$
ones	■	tenths	hundredths	thousandths
3	and	0	4	
2	and	3	5	1
	and	8		

Expanded Form

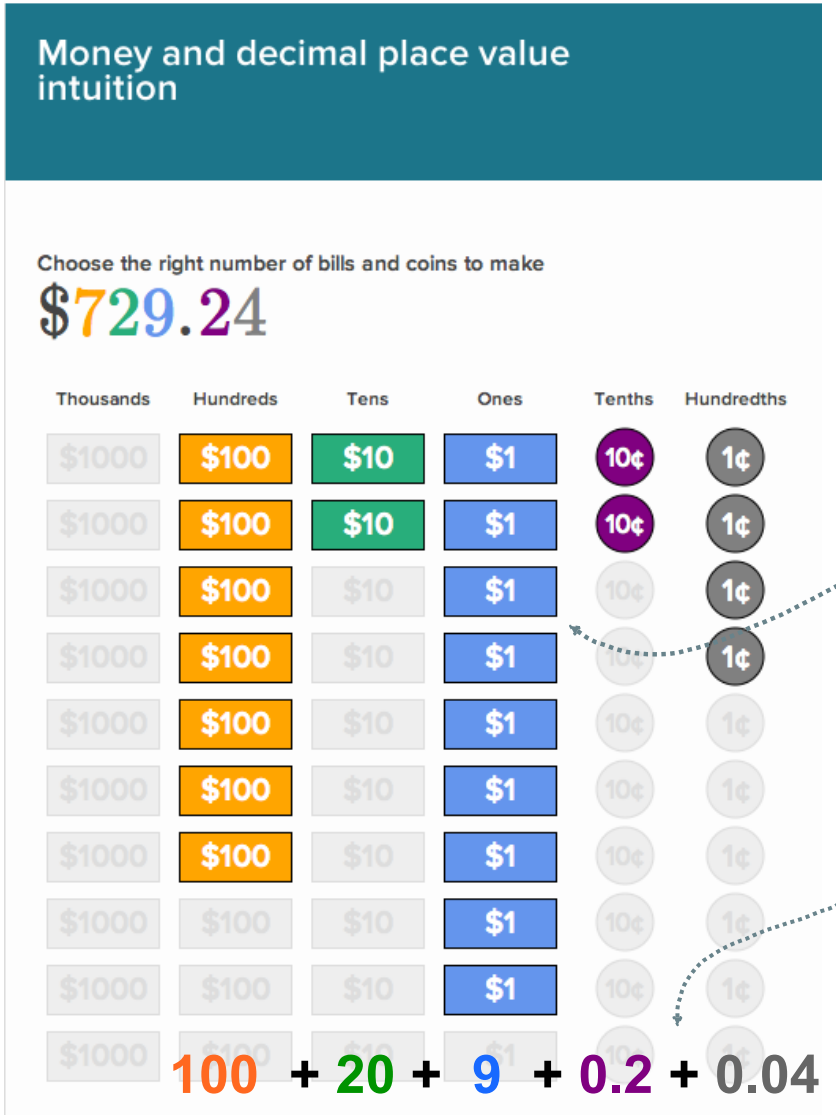
$3 + 0.04$

$2 + 0.3 + 0.04 + 0.001$

0.8

Teacher Notes

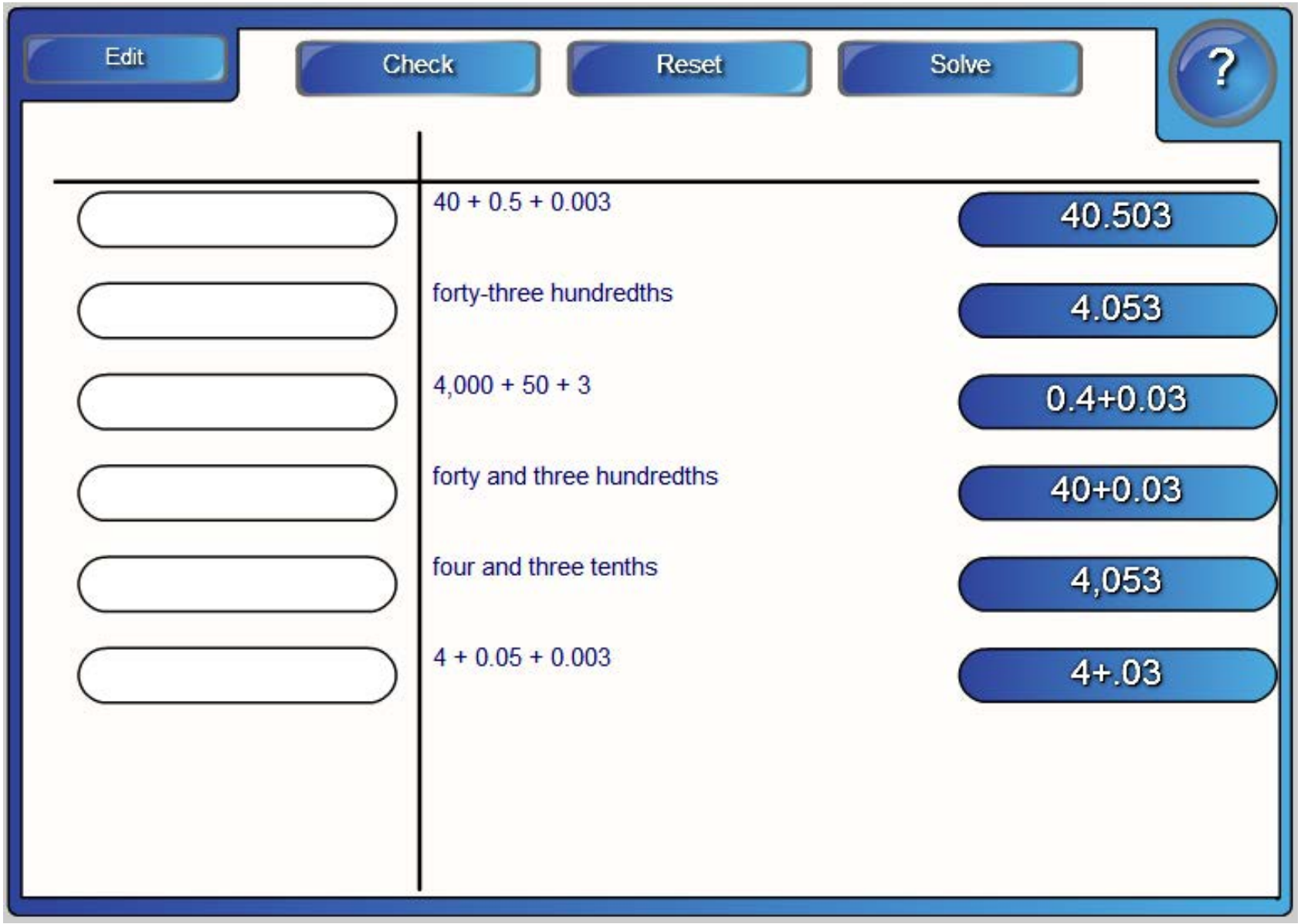
Decimal Place Value Game



This interactive game will help you practice writing numbers in expanded form.

As a class, select the correct building blocks for each place value, then write the number in expanded form.

Check your work as a class.


Edit
Check
Reset
Solve
?
40 + 0.5 + 0.003
forty-three hundredths
4,000 + 50 + 3
forty and three hundredths
four and three tenths
4 + 0.05 + 0.003
40.503
4.053
0.4+0.03
40+0.03
4,053
4+.03

34 What is 80 + 0.2 + 0.03 in standard form?

Answer

35 What is 0.5 + 0.004 in standard form?

Answer

36 Which is equivalent to 30.53?

A 30+0.5+0.3

B 3+0.05+0.03

C 0.3+0.05+0.003

D 30+0.05+0.003

Answer

37 Which is equivalent to 0.873?

A 0.8+0.07+0.03

B 8+0.7+0.3

C 0.8+0.07+0.3

D 0.8+0.07+0.003

Answer

38 Which number is equivalent to 0.08?

A eight tenths

B 0.8 + 0.08

C eight hundredths

Answer

39 Which number is equivalent to 0.3 + 0.004

A 3.04

B 0.34

C three hundred four thousandths

Answer

40 Which number is equivalent to sixteen hundredths?

A 0.016

B .1 + 0.06

C .01 + 0.06

Answer

41 Which of these are equal to 83.041?

Select **two** correct answers.

A eighty-three and forty-one tenths

B $8\times10+3\times1+4\times\frac{1}{10}+1\times\frac{1}{100}$

C eighty-three and forty-one hundredths

D $8\times10+3\times1+4\times\frac{1}{100}+1\times\frac{1}{1000}$

E eighty-three and forty-one thousandths

From PARCC PBA sample test #2

Teacher Notes

Compare & Order Decimals

Return to Table of Contents

Inequalities

There are two symbols we use to compare numbers when they are not equal. We call these number sentences **inequalities**.

> (**greater than**)

< (**less than**)

One number goes on the left of the symbol and another number goes on the right of the symbol.

The number on the left of the ">" shows the larger number.

For example:

2 > 1

2 is "greater than" 1

The number on the left of the "<" shows the smaller number.

For example:

1 < 2

1 is "less than" 2

Inequality Symbols

Symbols and *Words* to remember
when comparing numbers

SYMBOL	WORDS
>	greater than/largest
<	less than/ smallest
=	equal

Comparing Decimals

- Line up the decimal points
- Put zeros in wherever digits are missing
- Compare the digits, from left to right
- The largest digit, having the same place value, names the largest number

Comparing Decimals

Compare 0.045 and 0.21

- Line up the decimal points
- Put zeros in wherever digits are missing
- Compare the digits, from left to right
- The largest digit, having the same place value, names the largest number

0.045
0.210 ← put zero on the end

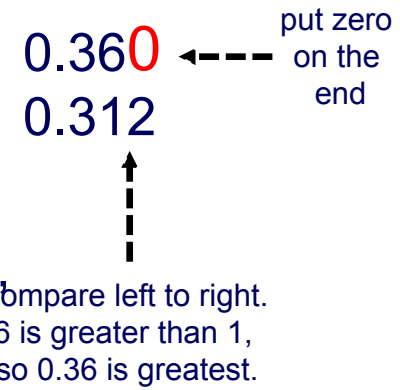
Compare left to right.
2 is greater than 0,
so 0.21 is greatest.

Click to reveal

Comparing Decimals

Compare 0.36 and 0.312

- Line up the decimal points
- Put zeros in wherever digits are missing
- Compare the digits, from left to right
- The largest digit, having the same place value, names the largest number

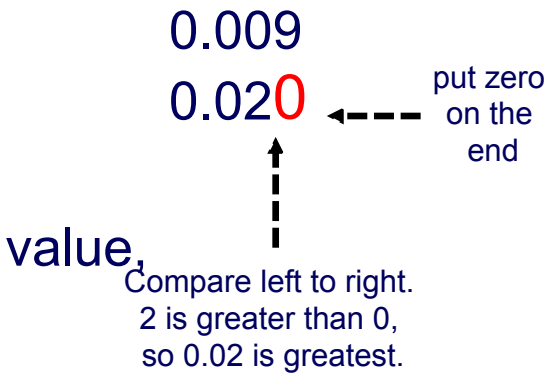


Click to reveal

Comparing Decimals

Compare 0.009 and 0.02

- Line up the decimal points
- Put zeros in wherever digits are missing
- Compare the digits, from left to right
- The largest digit, having the same place value, names the largest number



Click to reveal

Decimal Squares Interactive Games

Click for link.

Game could also be played with two students having a spinner and writing down their decimal number.

In this game the robot won, because 0.7950 is greater than 0.5021.

42 Choose the correct symbol.

A >

B <

C =

0.41 ☐ 0.049

Answer

43 Choose the correct symbol.

0.301 ☐ three hundred eleven thousandths

A >

B <

C =

Answer

44 Choose the correct symbol.

A >

B <

C =

0.007 ☐ 0.05

Answer

45 Choose the correct symbol.

A >

B <

C =

0.179 ☐ twenty-four hundredths

Answer

46 Choose the correct symbol.

A >

B <

C =

forty-six hundredths ▢ 0.6

Answer

47 Select from the choices to correctly complete the comparison.

4.408 ☐ four and forty-eight thousanths

A >

B <

C =

Answer

From PARCC PBA sample test #3

48 Select from the choices to correctly complete the comparison.

six hundred ninety-one and five hundredths ☐

6 x 100 + 9 x 10 + 1 + 8 x 11,000

A >

B <

C =

Answer

From PARCC PBA sample test #3

Teacher Note

Teachers:

Use this Mathematical Practice Pull Tab for the next slide.

Math Practice

49 In a paper airplane contest, Marcel's plane travels 3.345 meters. Salvador's plane travels 3.35 meters. Based on the measurements, whose plane traveled the farthest distance?
On your paper, explain how you know.

A Marcel

B Salvador

Answer

(Derived from engage^{ny})

Ordering Decimals

- Line up all of the decimal points
- Put zeros in wherever digits are missing
- Compare the digits, from left to right
- The largest digit, having the same place value,

names the largest number

Example:

Why is this the smallest number?

910.800
085.007
910.801
911.900
085.070

What digit tells us this is the largest number?

Compare the digits

click

50 The number with the least value is:

A 61.005

B 61.3

C 61.05

D 61.04

Answer

51 The number with the least value is:

A 0.005

B 0.5

C 0.05

D 0.0005

Answer

52 The number with the greatest value is:

A 9.888

B 9.8

C 9.008

D 9.088

Answer

53 The number with the greatest value is:

A 0.67

B 0.067

C 0.0067

D 0.00067

Answer

54 How much money would you like to win?

A $150.59

B $140.99

C $150.82

D $140.50

Answer

55 Using the following digits, create the largest number you can between 0 and 1.

1 , 7 , 0 , 2

Answer

56 Using the following digits, create the smallest number you can between 0 and 1.

1 , 7 , 0 , 2

Answer

Ordering Decimals

Order the numbers from least to greatest.
Move the numbers to put them in order.

15	0	1.5	0.015	0.15

Math Practice

Ordering Decimals

Order the numbers from greatest to least.
Move the numbers to put them in order.

0.709	0.009	0.68	0.08	0.07

57 Which of the following is ordered least to greatest?

A 0.3, 0.03, 0.33, 3.3

B 0.03, 0.3, 0.33, 3.3

C 0.03, 0.33, 0.3, 3.3

Answer

58 Which of the following is ordered least to greatest?

A 0.008, 0.06, 0.5

B 0.5, 0.06, 0.008

C 0.06, 0.5, 0.008

Answer

59 Which of the following is ordered greatest to least?

A 8.07, 0.008, 0.087, 0.87

B 0.008, 0.087, 0.87, 8.07

C 8.07, 0.87, 0.087, 0.008

Answer

60 Which of the following is *not* correct?

A $0.23 > 0.08 > 0.009$

B $0.23 > 0.009 > 0.08$

C $0.009 < 0.08 < 0.23$

Answer

61 Which of the following is correct?

A $0.8 < 0.32 < 0.41 < 0.701$

B $0.8 > 0.701 > 0.41 > 0.32$

C $0.32 > 0.41 > 0.701 > 0.8$

Answer

62 In a paper airplane contest, Marcel's plane travels 3.345 meters. Salvador's plane travels 3.35 meters. Jennifer's plane travels 3.3 meters. Based on the measurements, who won the contest?
On your paper, explain your answer.

A Marcel

B Salvador

C Jennifer

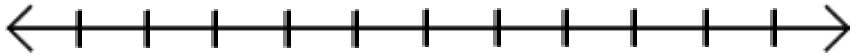
Answer

(Derived from engage^ny)

Round Numbers to Designated Place Values

Return to Table of Contents

Number Line Investigation

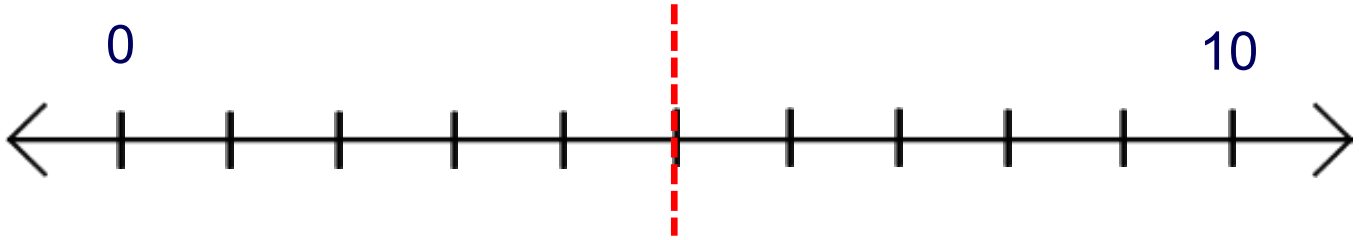


Instructions for the next slide:

1. Roll the die.
2. Click the yellow arrow to pop out the number.
3. Move the number to the correct place on the number line.
4. Determine whether the number is closer to 0 or 10. The dotted line shows the halfway mark between 0 and 10.

This can be repeated six times.

Number Line Investigation



Math Practice

Rounding

Rounding makes numbers easier to work with in your head.

- Rounded numbers are only approximate.
- An exact answer generally can not be obtained using rounded numbers.
- Use rounding to get an answer that is close and does not have to be exact.

Review

Round 8,749 to the nearest ten.

Teacher Notes

1. Put your pencil point under the digit in the tens place.
Look to the right.

2. Is the digit 5 or more?
Yes OR No

3. What happens to the digit?
Increases by 1 OR remains the same

4. What happens to everything to the left of the tens place?
Those digits always remain the same.

5. What happens to everything to the right of the tens place?
Those digits become zero.

Review

Round 8,749 to the nearest hundred.

1. Put your pencil point under the digit in the tens place.
   Look to the right.

2. Is the digit 5 or more?
   Yes OR No

3. What happens to the digit?
   Increases by 1 OR remains the same

4. What happens to everything to the left of the hundreds place?
   Those digits always remain the same.

5. What happens to everything to the right of the hundreds place?
   Those digits become zero.

Teacher Notes

63 Round 143 to the nearest ten.

Answer

64 Round 4,561 to the nearest hundred.

Answer

65 Round 564,012 to the nearest hundred thousand.

Answer

66 Round 7,399 to the nearest thousand.

Answer

67 Round 63,752 to the nearest hundred.

Answer

Rounding

What happens in this case?

Round 697 to the nearest ten.

The 7 to the right of the 9 tells us to increase the 9 by 1.

What happens?

Answer _____

68 Round 3,972 to the nearest hundred.

Answer

69 Round 98 to the nearest ten.

Answer

70 Round 399,238 to the nearest ten thousand.

Answer

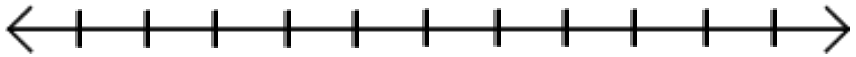
71 Round 9,521 to the nearest thousand.

Answer

72 Round 9,983 to the nearest hundred.

Answer

Number Line Investigation

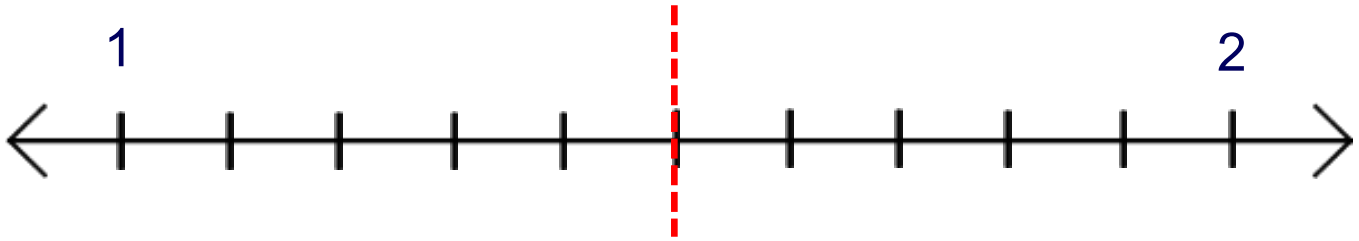


Instructions for the next slide:

1. Roll the die.
2. Click the yellow arrow to pop out the number.
3. Position the number in the correct place on the number line.
4. Determine whether the number is closer to 1 or 2. The dotted line shows the halfway mark between 1 and 2.

This can be repeated six times.

Number Line Investigation



Think, Pair, Share:

What rule can you use to determine whether any given number is closer to 1 or to 2?

Rounding Decimals

Let's learn how to round decimals using the following examples:

Round 687.268 to the nearest tenths place.

When rounding decimals, put your pencil point under the place value that you are rounding to

DO NOT MOVE IT

Round 687.268 to the nearest tenth.

1. Put your pencil point under the digit in the tenths place.
Look to the right.

2. Is the digit 5 or more?
Yes OR No

3. What happens to the digit?
Increases by 1 OR remains the same

4. What happens to everything to the left of the tenths place?
Those digits always remain the same.

Rounding Decimals

5. What happened to the digits to the right of the tenths place?

Remember, we are rounding.

The place values to the right of the tenths place have zero value, so now the digits 6 and 8 become zeroes.

687.300 = 687.3

However we leave the zeros off when they are at the end of a number to the right of the decimal point.

Round 8.73258 to the hundredths place.

1. Put your pencil point under the digit in the hundredths place.
Look to the right.

2. Is the digit 5 or more?
Yes OR No

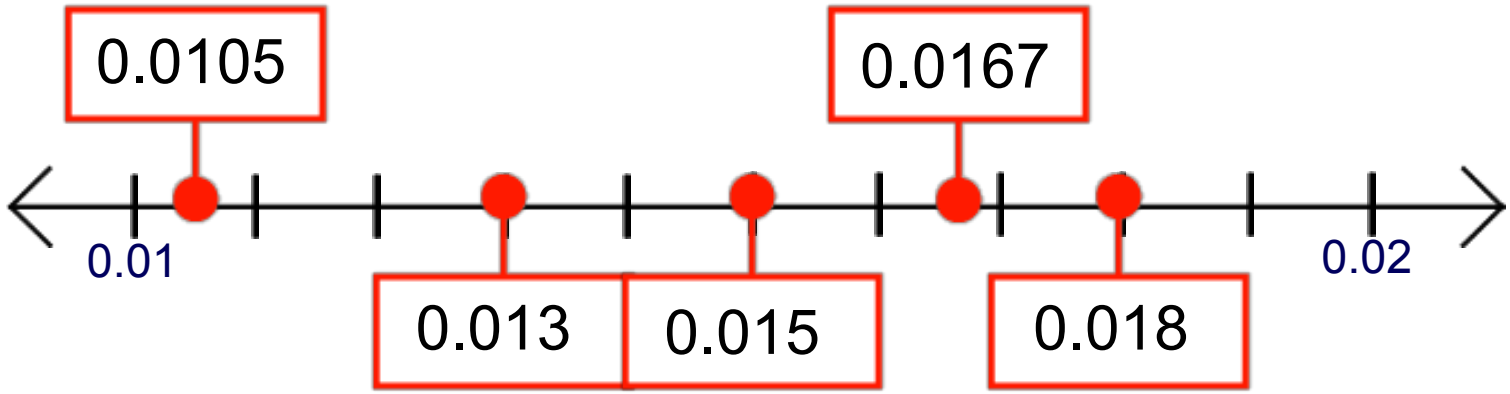
3. What happens to the digit?
Increases by 1 OR remains the same

4. What happens to everything to the left of the hundredths place?
Those digits always remain the same.

5. What happens to everything to the right of the hundredths place?
Those digits become zero (and we leave them
off since they are to the right of the decimal).

Rounding Decimals

Which of the decimals round to 0.02?



Rounding Practice

Try this:

Round 687.4953 to the nearest hundredths place

Click to reveal

73 Round

6874.6479

to the nearest hundredth.

Answer

74 Round

6874.6479

to the nearest ten.

Answer

75 Round

6874.6479

to the nearest hundred.

Answer

76 Round

6874.6479

to the nearest tenth.

Answer

77 Round

6874.6479

to the nearest thousand.

Answer

78 Round

6874.6479

to the nearest thousandth.

Answer

Caution!

When rounding to a specific place, your answer MUST have a digit in that place.

Example:
Round 23.97 to the nearest tenth

Answer: 24.0
There must be a digit in the tenths place, since we were to round to the tenths place.

79 Round

678.97

to the nearest tenth.

Answer

80 Round

6.304

to the nearest hundredth.

Answer

81 Round

5.03

to the nearest tenth.

Answer

82 Round

0.3497

to the nearest thousandth.

Answer

83 Round

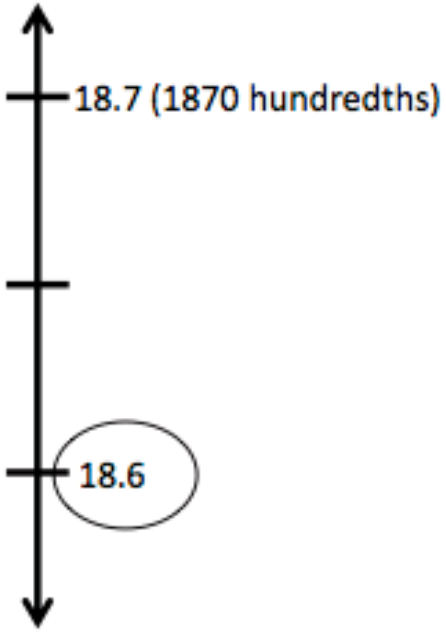
84.951

to the nearest tenth.

Answer

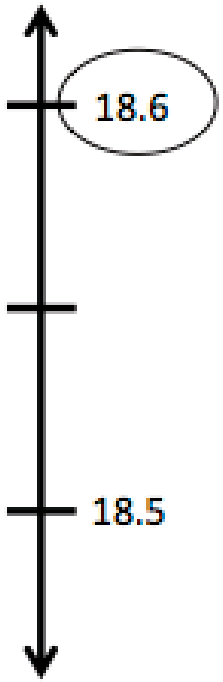
84 A decimal number has two digits to the right of its decimal point. If we round it to the nearest tenth, the result is 18.6.
What is the maximum possible value of this decimal?
On your paper, use words and the number line to explain your reasoning.

Answer



(Problem derived from engage^ny)

85 A decimal number has two digits to the right of its decimal point. If we round it to the nearest tenth, the result is 18.6.
What is the minimum possible value of this decimal?
On your paper, use words and the number line to explain your reasoning.



Answer

(Problem derived from engage^ny)

86 Jules reads that one pint is equivalent to 0.473 liters. He asks his teacher how many liters there are in a pint. His teacher responds that there are about 0.47 liters in a pint. He asks his parents, and they say there are about 0.5 liters in a pint. Who is correct? On your paper, explain your answer.

A His teacher

B His parents

C Both of them

Answer

(Problem derived from engage^{ny})

87 Rainfall collected in a rain gauge was found to be 3.4 cm when rounded to the nearest tenth of a centimeter. Select all the measurements below that could be the actual measurement of the rainfall.

A 3.251 cm

B 3.349 cm

C 3.352 cm

D 3.295 cm

Answer

88 Annual rainfall total for cities in New York are listed below.

Rochester	0.97 meters
Ithaca	0.947 meters
Saratoga Springs	1.5 meters
New York City	1.268 meters

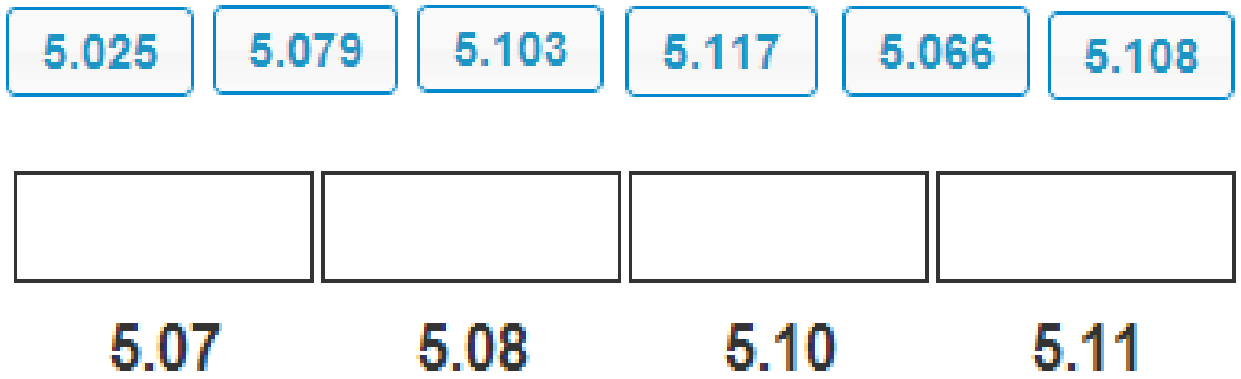
Round the smallest total rainfall to the nearest tenth.

Answer

(Derived from engage^ny)

Drag and Drop

Drag and drop one number into each box. When you are finished, the number inside each box should match the number below the box when rounded to the nearest hundredth.



From PARCC EOY sample test #6

Estimating Answers

Use rounding to estimate answers to problems.

At a restaurant, a burger is $5.99, fries are $3.85 and a small drink is $1.29. Round to the nearest dollar to estimate the cost to purchase all three items.

Cost	Estimate
$5.99	$6
$3.85	$4
$1.29	$1

It would cost about $11 to purchase all three items.

89 Round the following items, to the nearest dollar, to figure out the approximate cost if all of the items were bought.

pens $2.99

pencils $2.20

book bag $15.75

Answer

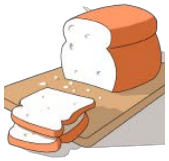
90 Round the following items to the nearest dollar tofigure out the approximate cost if all of the items were bought.

jeans $24.99
t-shirt $6.79
hat $12.31

Answer

91 Round the following items to the nearest dollar tofigure out the approximate cost if all of the items were bought.

milk $3.79
bread $2.15
juice $2.40



Answer

92 Round the following items to the nearest *half* dollar to figure out the approximate cost if all of the items were bought.

chicken $8.60

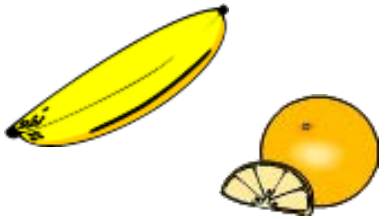
potatoes $2.45

peas $0.99

Answer

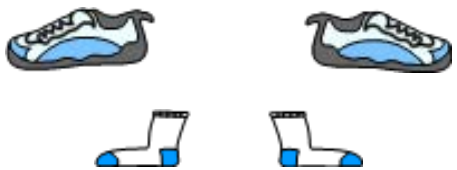
93 Round the following items to the nearest *half* dollar to figure out the cost if all of the items were bought.

apples $4.60
bananas $1.90
oranges $3.10



Answer

94 Round the following items to the nearest *ten* dollars to figure out the approximate cost if all of the items were bought.



sneakers $36.21
sweatshirt $13.99
socks $6.00

Answer

95 Round the following items to the nearest *hundred* dollars to figure out the approximate cost if all of the items were bought.

computer	$688.23
printer	$213.50
desk	$175.89

Answer

96 Which numbers show 1,034.17 rounded correctly to different place values?

Select the three correct answers.

A 1,000

B 1,030

C 1,035

D 1,100

E 1,034.1

F 1.034.2

From PARCC PBA sample test #12 Part B

Answer

Glossary & Standards

Teacher Notes

Return to Table of Contents

Standards for Mathematical Practices

MP1 Make sense of problems and persevere in solving them.

MP2 Reason abstractly and quantitatively.

MP3 Construct viable arguments and critique the reasoning of others.

MP4 Model with mathematics.

MP5 Use appropriate tools strategically.

MP6 Attend to precision.

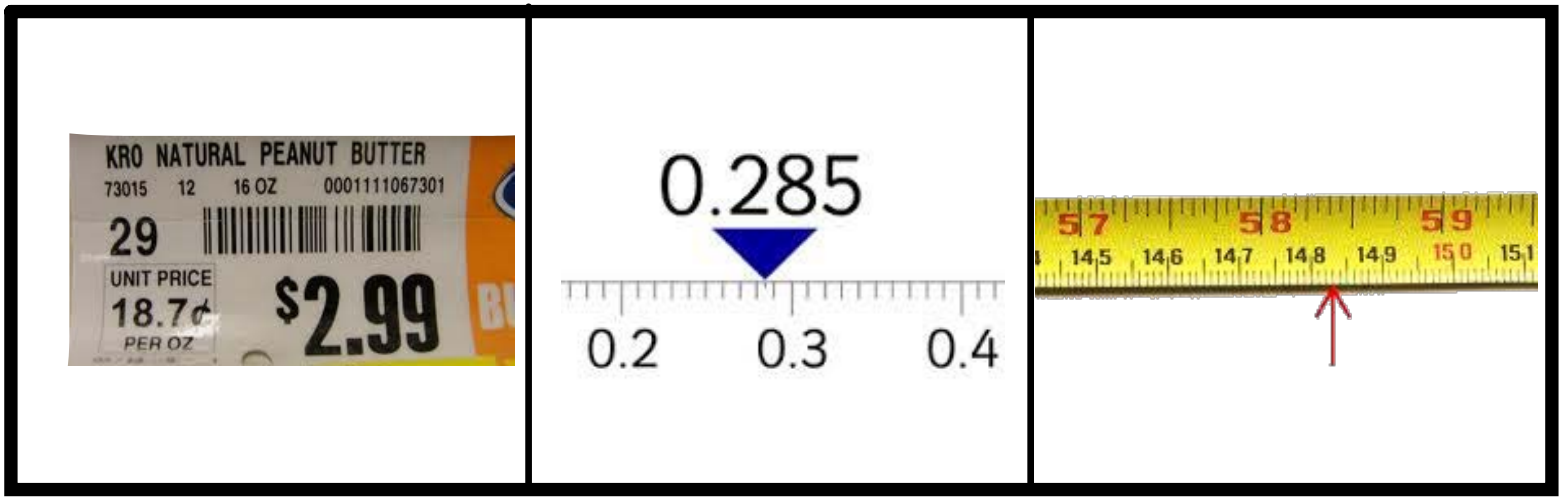
MP7 Look for and make use of structure.

MP8 Look for and express regularity in repeated reasoning.

Click on each standard to bring you to an example of how to meet this standard within the unit.

Decimal Number

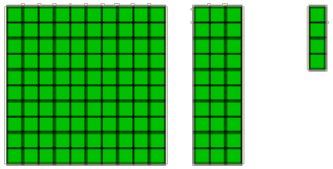
A Decimal Number (*based on the number 10, tenth parts, and powers of ten*) contains a Decimal Point.



Back to Instruction

Expanded Form

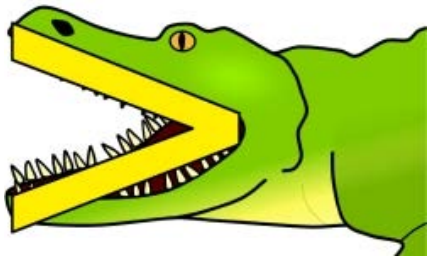
When a number is written as a sum of the value of each digit.

134 = 100 + 30 + 4 	0.456= 0.4 + 0.05 + 0.006	

Back to Instruction

Greater Than

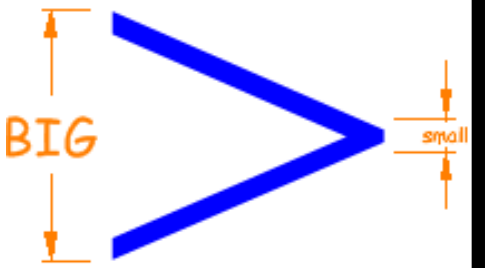
A symbol that shows that the number on the left is larger than the number on the right.



the alligator eats
the bigger number

.4 > .2

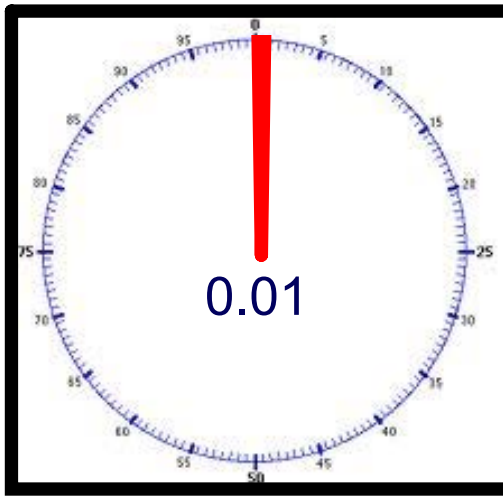
four tenths
is greater than
two tenths

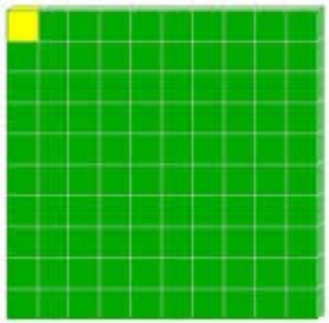


Back to Instruction

Hundredths

A part of one whole that has been divided into 100 equal parts. Also, a part of one tenth that has been divided into 10 equal parts.





0.01

Back to Instruction

Inequality

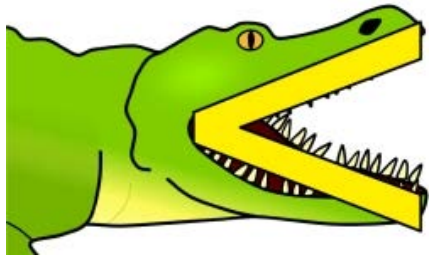
A number statement that shows that two numbers are not equal.

.4 > .2 four tenths is greater than two tenths	.2 < .4 two tenths is less than four tenths	.2 ≠ .4 two tenths is not equal to four tenths

Back to Instruction

Less Than

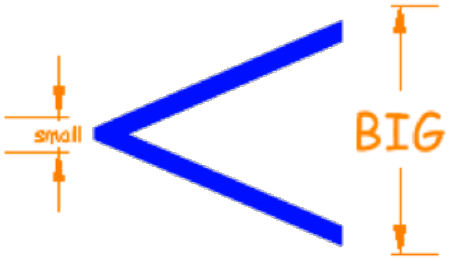
A symbol that shows that the number on the left is smaller than the number on the right.



the alligator will not eat the smaller #

.2 < .4

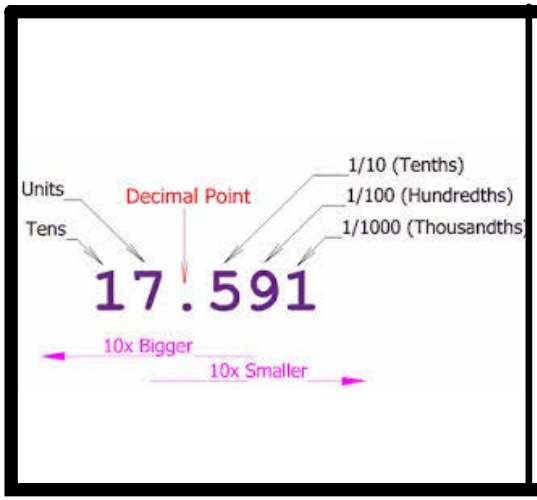
two tenths is less than four tenths

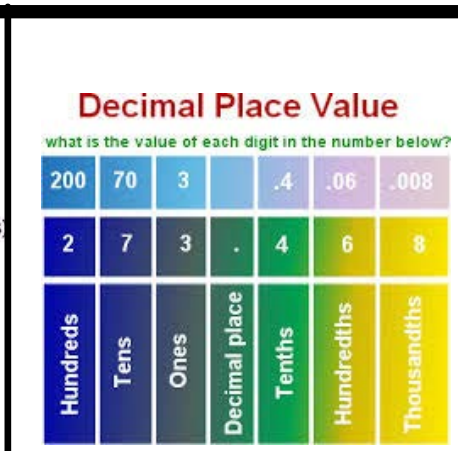


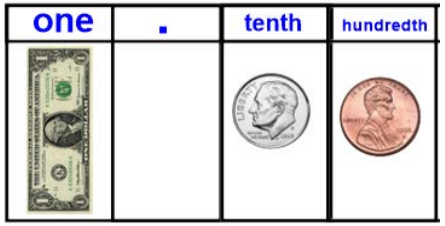
Back to Instruction

Place Value

The value of a digit depending on its position in a number.







Back to Instruction

Standard Form

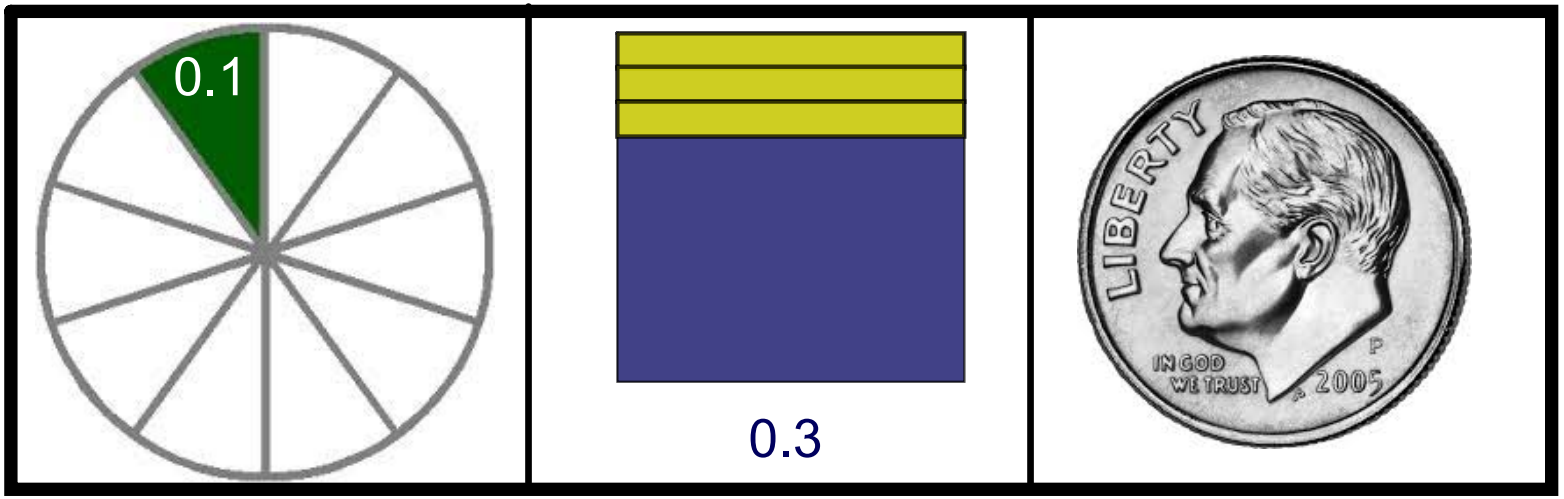
Standard form is the way we usually see numbers written, using digits, commas and a period when needed.

2.35		

Back to Instruction

Tenths

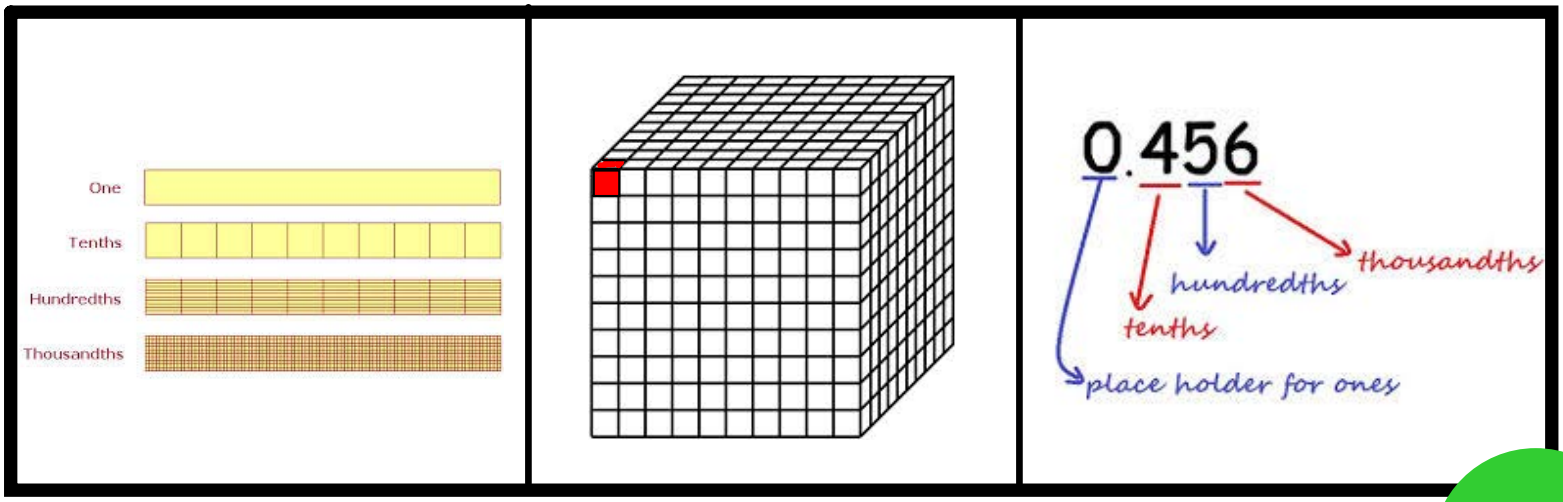
A part of one whole that has been divided into 10 equal parts.



Back to Instruction

Thousandths

A part of one whole that has been divided into 1,000 equal parts. Also, a part of one tenth that has been divided into 100 equal parts, and a part of one hundredth that has been divided into 10 equal parts.

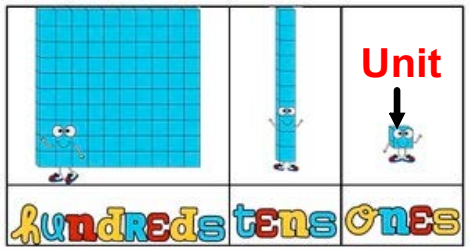


Back to Instruction

Unit

A unit is used to describe one of something.

In place value, a unit is the ones place.

$2.99 for 16 oz  18.7 for 1 oz **(1 unit)**	 	1

Back to Instruction

Word Form

Word form is a number written using words instead of digits, commas, and a period when needed.

$3.44 three dollars and forty-four cents	8:24pm Eight twenty-four pm	3.45 three and forty-five hundredths

Back to Instruction