Name _____

Decimal Place Value

A place-value chart can help you find the value of each digit in a decimal.

	Ones	Tenths	Hundredths	Thousandths	Ten-Thousandths
Decimal:	2	3	6	5	1
Read:	two	three tenths	six hundredths	five thousandths	one ten-thousandth
Write:	2.0	0.3	0.06	0.005	0.0001

In *Standard Form:* 2.3651
In *Expanded Form:* 2.0 + 0.3 + 0.06 + 0.005 + 0.0001
In *Word Form:* two and three thousand, six hundred fifty-one ten-thousandths

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Record each decimal in the place-value chart. Write each decimal in expanded form and word form.

1. 1.51

Ones	Tenths	Hundredths	Thousandths	Ten-Thousandths

Expanded form: _____

Word form: _____

2. 4.973

Ones	Tenths	Hundredths	Thousandths	Ten-Thousandths

Expanded form: _____

Word form: _____

3. 7.0458

Ones	Tenths	Hundredths	Thousandths	Ten-Thousandths

Expanded form: _____

Word form: _____

Name _____

Equivalent Decimals

Equivalent decimals are different names for the same number or amount.

2 tenths = 20 hundredths

0.2 = 0.20

In the place-value chart, both numbers have a 2 in the tenths place.

Ones	Tenths	Hundredths	
0	2		← 2 tenths
0	2	0	← 20 hundredths

The zero to the right of the 2 does not change the value of the decimal. So, 0.2 and 0.20 are equivalent.

Write the numbers in the place-value chart. Then write *equivalent* or *not equivalent* to describe each pair of decimals.

1. 2.5 and 2.50

Ones	Tenths	Hundredths

_____

2. 0.73 and 0.703

Ones	Tenths	Hundredths	Thousandths

_____

Write the two decimals that are equivalent.

3. 3.05
   3.050
   3.500

_____

4. 1.110
   1.1
   1.11

_____

5. 0.180
   0.0180
   0.018

_____

6. 7.77
   7.707
   7.770

_____

Write an equivalent decimal for each number.

7. 0.05 _____

8. 2.100 _____

9. 2.875 _____

10. 0.040 _____

Name _____

Compare and Order Decimals

You can use a place-value chart to compare 6.741 and 6.742.

Ones	Tenths	Hundredths	Thousandths
6	7	4	1
6	7	4	2
↑ same	↑ same	↑ same	↑ 2 > 1

So, 6.742 > 6.741.

Write the numbers in the place-value chart. Then write <, >, or = in each ◯.

1. 2.45 ◯ 2.54

O	T	H

2. 6.23 ◯ 6.230

O	T	H	Th

3. 72.648 ◯ 72.658

T	O	T	H	Th

4. 564.876 ◯ 564.786

H	T	O	T	H	Th

Write <, >, or = in each ◯.

5. 3.21 ◯ 3.210

6. 721.460 ◯ 72.146

7. 6.275 ◯ 6.257

8. 468.036 ◯ 468.136

Order from least to greatest.

9. 16.54, 16.56, 16.55 _____

10. 3.400, 3.004, 3.040 _____

Name _____

Round Decimals

The same rules you learned for rounding whole numbers can be used to round decimals.

Step 1: Underline the digit in the place to which you want to round.

Step 2: Compare the digit at the right of the underlined digit to 5.
Round Down: If the digit at the right is less than 5, the underlined digit stays the same.
Round Up: If the digit at the right is 5 or greater, increase the underlined digit by 1.

Step 3: Rewrite all digits to the right of the underlined digit as zeros. An equivalent decimal can be written by leaving off trailing zeros.

A. Round 5.643 to the nearest hundredth.	B. Round 0.8287 to the nearest thousandth.
Underline. 5.6<u>4</u>3	Underline. 0.82<u>8</u>7
Compare. $3 < 5$ Round <u>down</u>.	Compare. $7 > 5$ Round <u>up</u>.
Rewrite. 5.640 or 5.64	Rewrite. 0.8290 or 0.829

1. Round 4.1872 to the place of the **bold-faced** digit.

   Underline. 4.1872

   Compare. ___ ◯ 5 Round _____.

   Rewrite. _____

2. Round 82.64751 to the nearest thousandth.

   Underline. 82.6475

   Compare. ___ ◯ 5 Round _____.

   Rewrite. _____

Round each number to the place of the **bold-faced** digit.

3. 7.325 _____

4. 9.0287 _____

5. 108.108 _____

6. 26.3199 _____

Round 12.8405 to the place named.

7. hundredths _____

8. ones _____

9. tenths _____

10. thousandths _____