Student Guide

Compare and Order Decimals (SG pp. 375–378) Questions 1–12

1.* 9765.420; Possible response: I put the 9 in the thousands place because it was the largest digit. Then I placed the 7 in the hundreds place because it was the next largest digit. I continued to place the digits in each place from left to right in order from the largest digit to the smallest digit.

2.* If the zero is allowed in the thousands place the number will be 0245.679. If the zero is not allowed in the thousands place the number will be 2045.679; Possible response: I started with the smallest digit in the largest place (the thousands) then I continued to place the numbers from smallest to largest as I moved each place to the right.

3.* Possible response: If you know about place value you can tell the value of each digit in a number. This helps you know if a digit represents a large number or a small number.

4. A.*The numbers close to zero have a zero in the tenths place and a very low number (less than 5) in the hundredths place.

B.*The numbers close to 0.1 have a zero or a 1 or 2 in the tenths place.

C.*The numbers close to 0.5 have a number close to or equal to 5 in the tenths place.

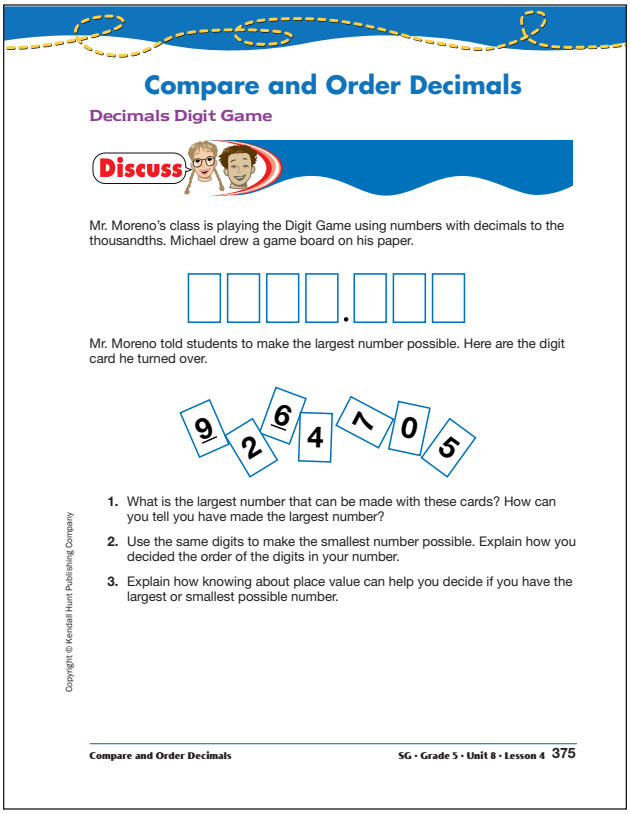
D.*The numbers close to 1.0 have a 1 in the ones place or they have a very high number like a 7, 8 or 9 in the tenths place.

E.*The numbers greater than 1 have digits larger than 1 in the ones place. Some of them are also double digit numbers.

5–6.*

Decimals Sorting Table

Decimals Near or Equal to 0	Decimals Near or Equal to 0.1	Decimals Near or Equal to 0.5	Decimals Near or Equal to 1	Decimals Much Greater Than 1
0.0	0.085	0.452	0.819	4
0.003	0.09	.491	.89	4.005
0.007	0.10	0.500, 0.50	0.9	6.03
0.009	0.101	0.6	0.981	7.9
.01	0.11	0.602	1.0	23.56
0.011	0.2	0.61	1.03	30.4
			1.075	



Compare and Order Decimals

Decimals Digit Game

Discuss

Mr. Moreno's class is playing the Digit Game using numbers with decimals to the thousandths. Michael drew a game board on his paper.

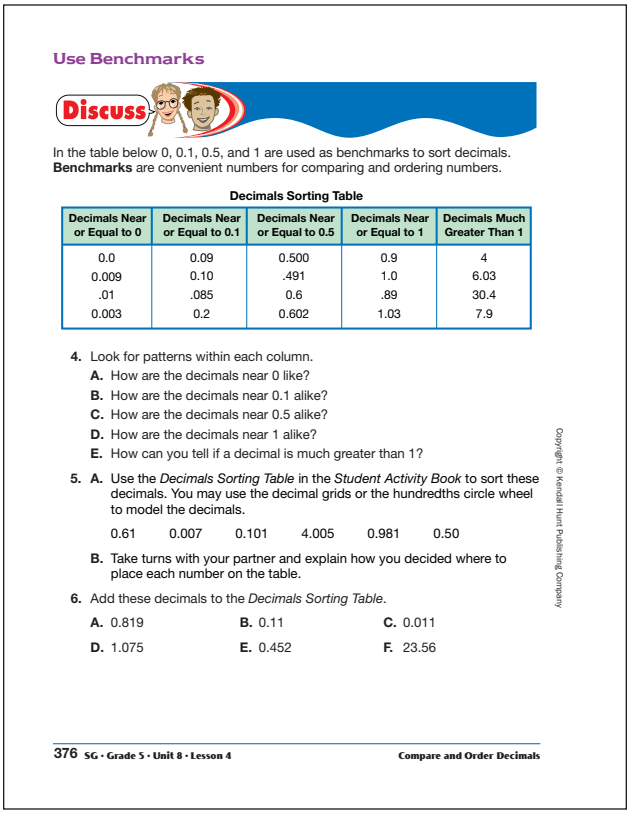
Mr. Moreno told students to make the largest number possible. Here are the digit card he turned over.

9 2 6 4 7 0 5

1. What is the largest number that can be made with these cards? How can you tell you have made the largest number?
2. Use the same digits to make the smallest number possible. Explain how you decided the order of the digits in your number.
3. Explain how knowing about place value can help you decide if you have the largest or smallest possible number.

Compare and Order Decimals SG • Grade 5 • Unit 8 • Lesson 4 375

***Student Guide* - Page 375**



Use Benchmarks

Discuss

In the table below 0, 0.1, 0.5, and 1 are used as benchmarks to sort decimals. **Benchmarks** are convenient numbers for comparing and ordering numbers.

Decimals Sorting Table

Decimals Near or Equal to 0	Decimals Near or Equal to 0.1	Decimals Near or Equal to 0.5	Decimals Near or Equal to 1	Decimals Much Greater Than 1
0.0	0.09	0.500	0.9	4
0.009	0.10	.491	1.0	6.03
.01	.085	0.6	.89	30.4
0.003	0.2	0.602	1.03	7.9

4. Look for patterns within each column.
   - A. How are the decimals near 0 like?
   - B. How are the decimals near 0.1 alike?
   - C. How are the decimals near 0.5 alike?
   - D. How are the decimals near 1 alike?
   - E. How can you tell if a decimal is much greater than 1?
5. A. Use the *Decimals Sorting Table* in the *Student Activity Book* to sort these decimals. You may use the decimal grids or the hundredths circle wheel to model the decimals.

   0.61 0.007 0.101 4.005 0.981 0.50

   B. Take turns with your partner and explain how you decided where to place each number on the table.
6. Add these decimals to the *Decimals Sorting Table*.

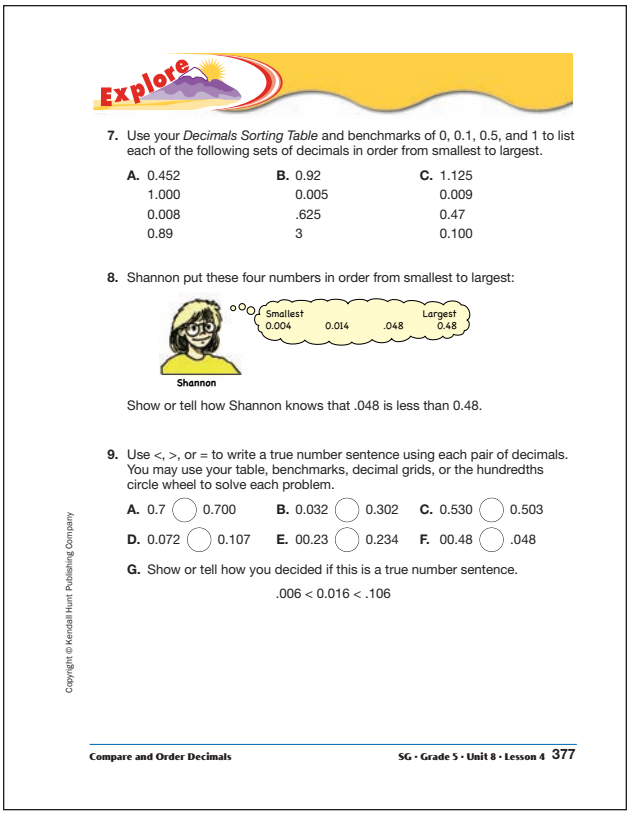
   A. 0.819 B. 0.11 C. 0.011

   D. 1.075 E. 0.452 F. 23.56

376 SG • Grade 5 • Unit 8 • Lesson 4 Compare and Order Decimals

***Student Guide* - Page 376**

***Answers and/or discussion are included in the lesson.**



Explore

7. Use your *Decimals Sorting Table* and benchmarks of 0, 0.1, 0.5, and 1 to list each of the following sets of decimals in order from smallest to largest.

A.	B.	C.
0.452	0.92	1.125
1.000	0.005	0.009
0.008	.625	0.47
0.89	3	0.100

8. Shannon put these four numbers in order from smallest to largest:

Show or tell how Shannon knows that .048 is less than 0.48.

9. Use <, >, or = to write a true number sentence using each pair of decimals. You may use your table, benchmarks, decimal grids, or the hundredths circle wheel to solve each problem.

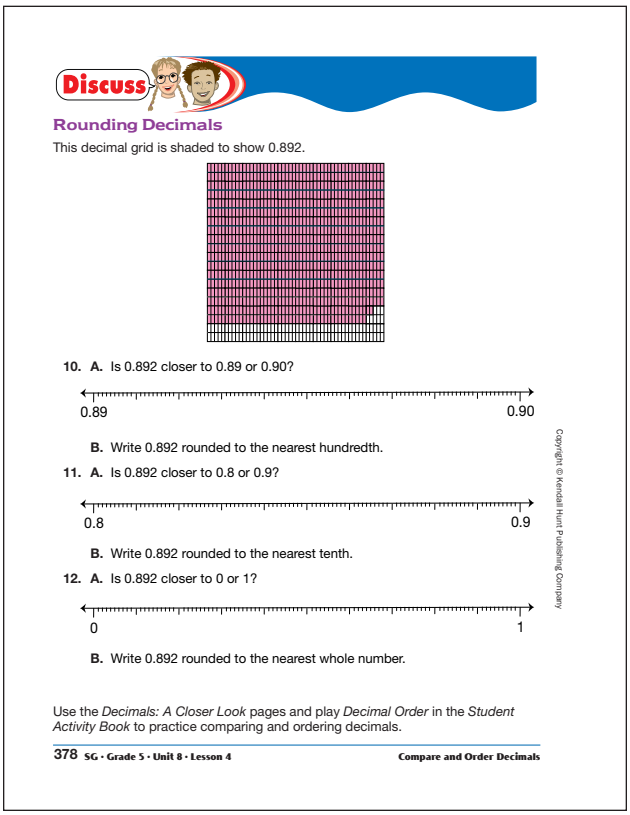
A. 0.7 ◯ 0.700 B. 0.032 ◯ 0.302 C. 0.530 ◯ 0.503

D. 0.072 ◯ 0.107 E. 00.23 ◯ 0.234 F. 00.48 ◯ .048

G. Show or tell how you decided if this is a true number sentence.

.006 < 0.016 < .106

***Student Guide* - Page 377**



Discuss

Rounding Decimals

This decimal grid is shaded to show 0.892.

10. A. Is 0.892 closer to 0.89 or 0.90?

B. Write 0.892 rounded to the nearest hundredth.

11. A. Is 0.892 closer to 0.8 or 0.9?

B. Write 0.892 rounded to the nearest tenth.

12. A. Is 0.892 closer to 0 or 1?

B. Write 0.892 rounded to the nearest whole number.

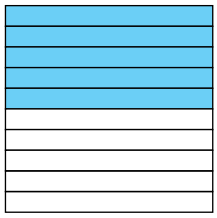
Use the *Decimals: A Closer Look* pages and play *Decimal Order* in the *Student Activity Book* to practice comparing and ordering decimals.

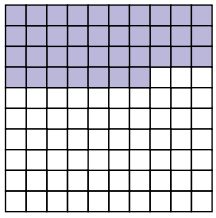
***Student Guide* - Page 378**

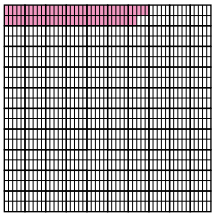
7. **A.** 0.008, 0.452, 0.89, 1.000
   B. 0.005, .625, 0.92, 3
   C. 0.009, 0.100, 0.47, 1.125
8. 0.048 is equal to $\frac{48}{1000}$ and that is between 0 and 0.1 but 0.48 is $\frac{48}{100}$ which is close to .5. Since 0.1 is less than 0.5, 0.048 is less than 0.5.
9. **A.** =
   B. <
   C. >
   D. <
   E. <
   F. >
   G. Yes, this is true. I thought about fractions. .006 is $\frac{6}{1000}$, 016 is $\frac{16}{1000}$, and .106 is $\frac{106}{1000}$.
10. **A.*** 0.89
    B.* 0.89
11. **A.*** 0.9
    B.* 0.9
12. **A.*** 1
    B.* 1

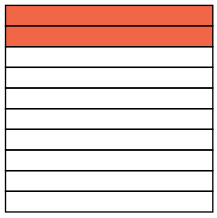
***Answers and/or discussion are included in the lesson.**

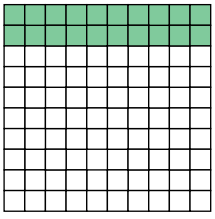
Homework (SG p. 379)
Questions 1–6

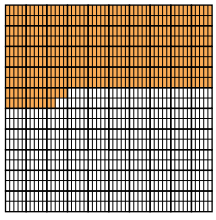
1. A. 

B. 

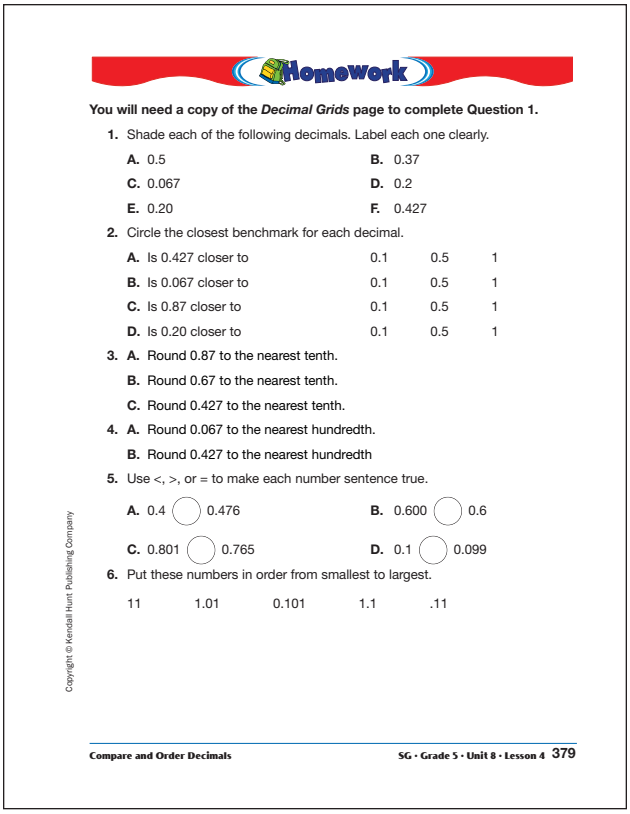
C. 

D. 

E. 

F. 

2. A. 0.5
   B. 0.1
   C. 1
   D. 0.1
3. A. 0.9
   B. 0.7
   C. 0.4
4. A. 0.07
   B. 0.43
5. A. <
   B. =
   C. >
   D. >
6. 0.101, .11, 1.01, 1.1, 11



Homework

You will need a copy of the *Decimal Grids* page to complete Question 1.

1. Shade each of the following decimals. Label each one clearly.
   - **A.** 0.5
   - **B.** 0.37
   - **C.** 0.067
   - **D.** 0.2
   - **E.** 0.20
   - **F.** 0.427
2. Circle the closest benchmark for each decimal.
   - **A.** Is 0.427 closer to 0.1 0.5 1
   - **B.** Is 0.067 closer to 0.1 0.5 1
   - **C.** Is 0.87 closer to 0.1 0.5 1
   - **D.** Is 0.20 closer to 0.1 0.5 1
3. **A.** Round 0.87 to the nearest tenth.
   B. Round 0.67 to the nearest tenth.
   C. Round 0.427 to the nearest tenth.
4. **A.** Round 0.067 to the nearest hundredth.
   B. Round 0.427 to the nearest hundredth
5. Use <, >, or = to make each number sentence true.
   - **A.** 0.4 ◯ 0.476
   - **B.** 0.600 ◯ 0.6
   - **C.** 0.801 ◯ 0.765
   - **D.** 0.1 ◯ 0.099
6. Put these numbers in order from smallest to largest.

   11 1.01 0.101 1.1 .11

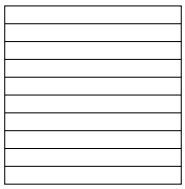
Compare and Order Decimals SG • Grade 5 • Unit 8 • Lesson 4 379

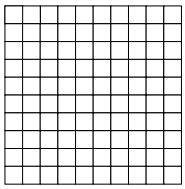
***Student Guide* - Page 379**

Name _____ Date _____

Decimals: A Closer Look

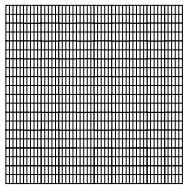
1. A. Shade 0.4. **B.** Shade 0.40.





C. Write <, >, or = to make this number sentence true: 0.4 ◯ 0.40.
Explain how you decided which symbol to use.

2. A. Shade 0.300.



B. Use <, >, or = to make a true number sentence.

0.3 ◯ 0.300

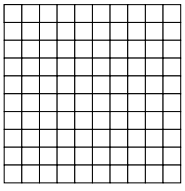
C. Use <, >, or = to make a true number sentence.

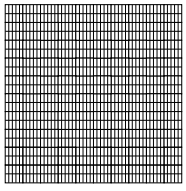
0.30 ◯ 0.300

***Student Activity Book* - Page 311**

Name _____ Date _____

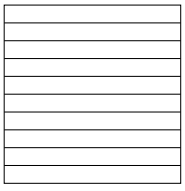
3. A. Shade 0.27 **B.** Shade 0.127.

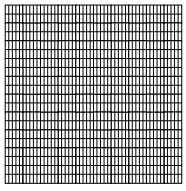




C. Write <, >, or = to make this number sentence true: 0.27 ◯ 0.127.

4. A. Shade 0.4 **B.** Shade 0.345.



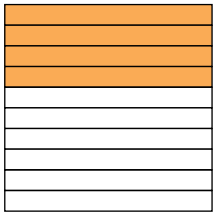
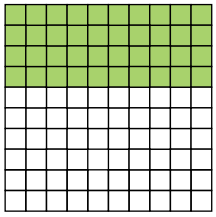


C. Write <, >, or = to make this number sentence true: 0.4 ◯ 0.345.

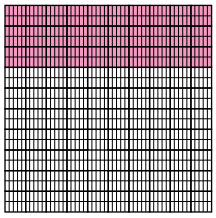
***Student Activity Book* - Page 312**

Student Activity Book

Decimals: A Closer Look (SAB pp. 311–316)
Questions 1–11

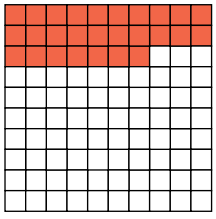
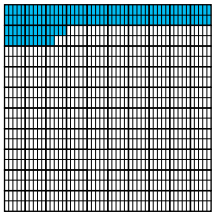
1. **A.**  **B.** 

C. 0.4 (=) 0.40

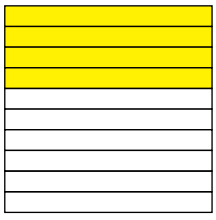
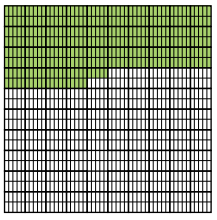
2. **A.** 

B. 0.3 (=) 0.300

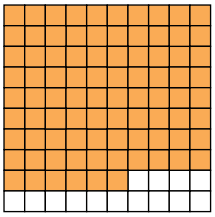
C. 0.30 (=) 0.300

3. **A.**  **B.** 

C. 0.27 (>) 0.127

4. **A.**  **B.** 

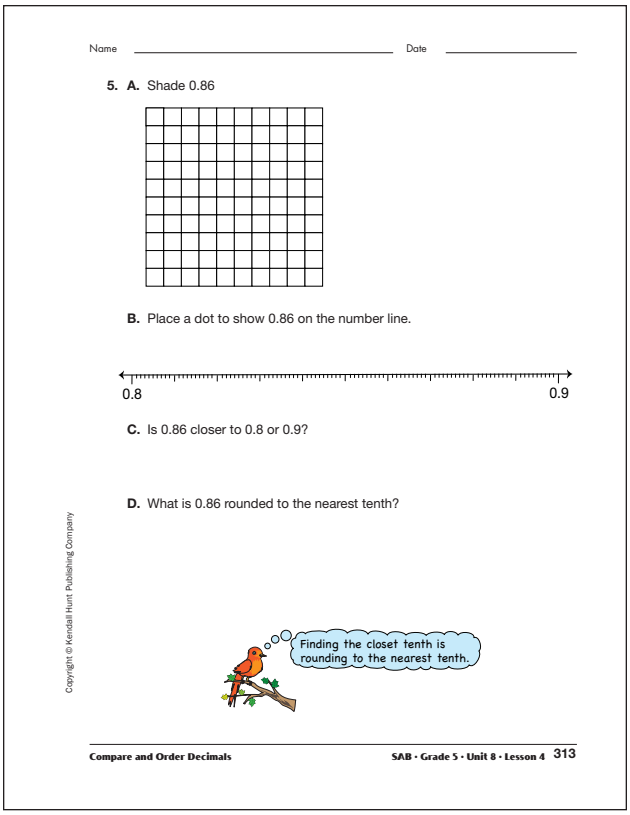
C. 0.4 (>) 0.345

5. A. 

B. 

C. 0.9

D. 0.9


Name _____ Date _____

5. A. Shade 0.86

B. Place a dot to show 0.86 on the number line.

0.8 0.9

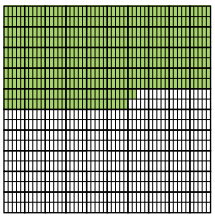
C. Is 0.86 closer to 0.8 or 0.9?

D. What is 0.86 rounded to the nearest tenth?

Finding the closet tenth is rounding to the nearest tenth.

Compare and Order Decimals SAB • Grade 5 • Unit 8 • Lesson 4 313

***Student Activity Book* - Page 313**

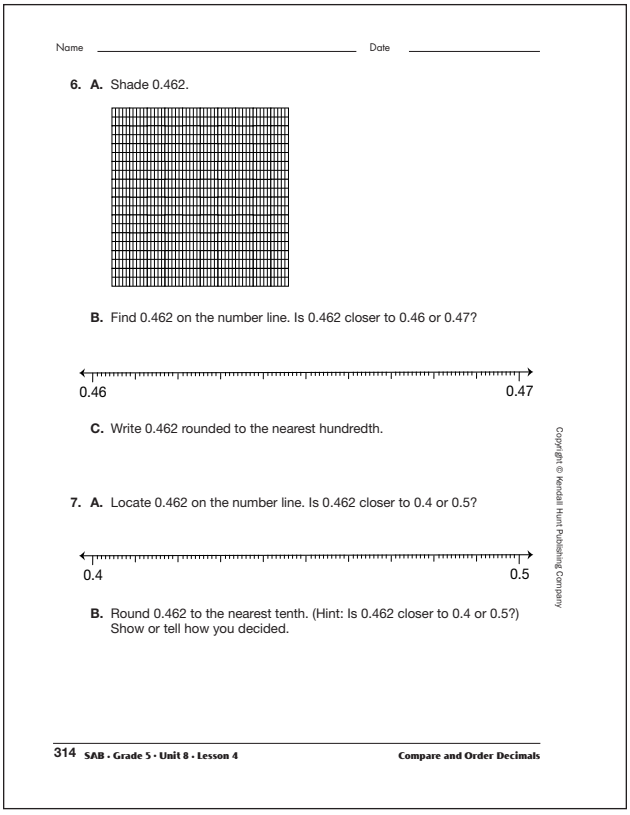
6. A. 

B. 

C. 0.46

7. A. 

B. 0.5; Possible response: .46 is more than halfway between .4 and .5, so it is closer to .5.


Name _____ Date _____

6. A. Shade 0.462.

B. Find 0.462 on the number line. Is 0.462 closer to 0.46 or 0.47?

0.46 0.47

C. Write 0.462 rounded to the nearest hundredth.

7. A. Locate 0.462 on the number line. Is 0.462 closer to 0.4 or 0.5?

0.4 0.5

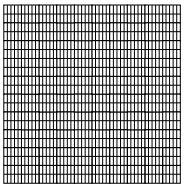
B. Round 0.462 to the nearest tenth. (Hint: Is 0.462 closer to 0.4 or 0.5?) Show or tell how you decided.

314 SAB • Grade 5 • Unit 8 • Lesson 4 Compare and Order Decimals

***Student Activity Book* - Page 314**

Name _____ Date _____

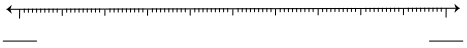
8. A. Shade .572.



B. Label the endpoint of the number line to show between which two hundredths .572 is located. Show where .572 is on the number line.

C. Write .572 rounded to the nearest hundredth. How do you know?

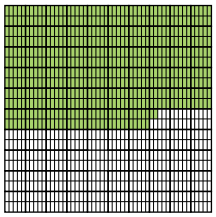
9. A. Label the endpoint of the number line to show between which two tenths .572 is located. Show where .572 is on the number line.



B. What is .572 rounded to the nearest tenth? How did you decide?

***Student Activity Book* - Page 315**

8. A.



B.

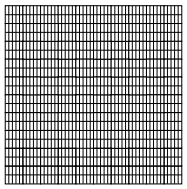
C. 0.57; 0.572 is between 0.57 and 0.58 but it is closer to .57.

9. A.

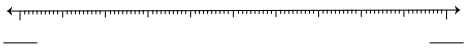
B. 0.6, .567 is between .5 and .6 but it is more than halfway between the two numbers so it is closer to .6.

Name _____ Date _____

10. A. Shade 0.068.



B. Label the endpoints of the number line to show between which two hundredths .068 is located. Show where .068 is on the number line.



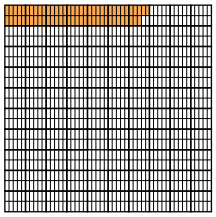
C. Write .068 rounded to the nearest hundredth. How do you know?

11. A. Label the endpoints of the number line to show between which two tenths .068 is located. Show the location of .068 on the number line.

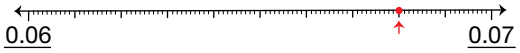
B. What is .068 rounded to the nearest tenth? How did you decide?

***Student Activity Book* - Page 316**

10. A.

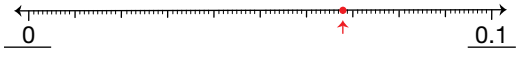


B.



C. 0.07; 0.068 is between 0.06 and 0.07. It is almost all the way ot 0.07 on the number line, so it rounds to 0.07.

11. A.



B. 0.1; .068 is between 0 and .1 but closer to .1.

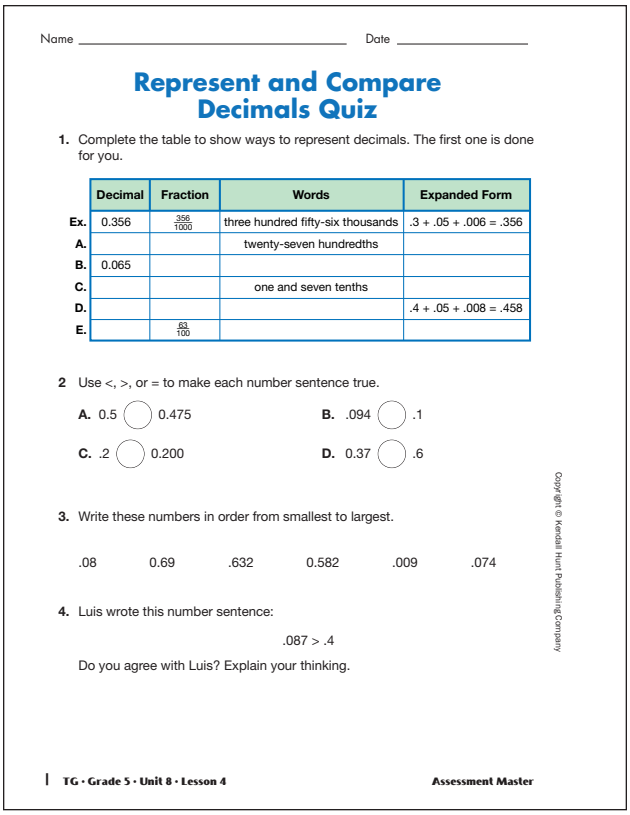
Teacher Guide

Represent and Compare Decimals Quiz (TG pp. 1–2) Questions 1–7

1.

	Decimal	Fraction	Words	Expanded Form
Ex.	0.356	$\frac{356}{1000}$	three hundred fifty-six thousands	.3 + .05 + .006 = .356
A.	0.27	$\frac{27}{100}$	twenty-seven hundredths	.2 + .07 = .27
B.	0.065	$\frac{65}{1000}$	sixty-five thousandths	.06 + .005 = .065
C.	1.7	$1\frac{7}{10}$	one and seven tenths	1 + .7 = 1.7
D.	.458	$\frac{458}{1000}$	four hundred fifty-eight thousandths	.4 + .05 + .008 = .458
E.	.63	$\frac{63}{100}$	sixty-three hundredths	.6 + .03 = .63

2. **A.** 0.5 (>) 0.475 **B.** .094 (<) .1
   C. .2 (=) 0.200 **C.** 0.37 (<) .6
3. .009, .074, .08, 0.582, 0.632, 0.69
4. No, 0.087 is between eight hundredths and 9 hundredths. You need 10 hundreds to equal one tenth. That means both of these numbers are less than one tenth, so they have to be less than four tenths.
5. **A.** 30
   B. 1
   C. 12
   D. 33
   E. I thought about a number line. .923 will be between 0 and 1. It will be almost all the way to 1 on the number line.
6. **A.** 29.8
   B. .9
   C. 12.0
   D. 32.6
   E. This number is rounded to 12 and zero tenths because .001 is only one thousandths.
7. **A.** 2.98
   B. .92
   C. 12.01
   D. 16.10
   E. .097 is between nine hundredths and ten hundreds. It is closer to ten hundredths on the number line so the number rounds to 16.10.



Name _____ Date _____

Represent and Compare Decimals Quiz

1. Complete the table to show ways to represent decimals. The first one is done for you.

	Decimal	Fraction	Words	Expanded Form
Ex.	0.356	$\frac{356}{1000}$	three hundred fifty-six thousands	.3 + .05 + .006 = .356
A.			twenty-seven hundredths	
B.	0.065			
C.			one and seven tenths	
D.				.4 + .05 + .008 = .458
E.		$\frac{63}{100}$		

2 Use <, >, or = to make each number sentence true.

A. 0.5 ◯ 0.475 B. .094 ◯ .1

C. .2 ◯ 0.200 D. 0.37 ◯ .6

3. Write these numbers in order from smallest to largest.

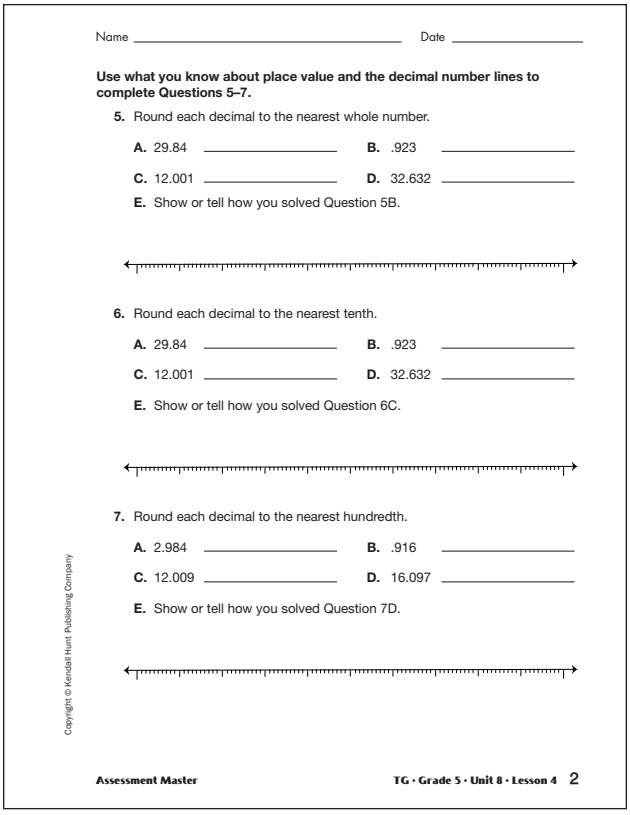
.08 0.69 .632 0.582 .009 .074

4. Luis wrote this number sentence:

.087 > .4

Do you agree with Luis? Explain your thinking.

Teacher Guide - Page 1



Name _____ Date _____

Use what you know about place value and the decimal number lines to complete Questions 5–7.

5. Round each decimal to the nearest whole number.

A. 29.84 _____ B. .923 _____

C. 12.001 _____ D. 32.632 _____

E. Show or tell how you solved Question 5B.

6. Round each decimal to the nearest tenth.

A. 29.84 _____ B. .923 _____

C. 12.001 _____ D. 32.632 _____

E. Show or tell how you solved Question 6C.

7. Round each decimal to the nearest hundredth.

A. 2.984 _____ B. .916 _____

C. 12.009 _____ D. 16.097 _____

E. Show or tell how you solved Question 7D.

Teacher Guide - Page 2