Name _____

Compare Decimals

Essential Question How can you compare decimals?

Common Core **Number and Operations—Fractions—4.NF.C.7**

MATHEMATICAL PRACTICES
MP2, MP4, MP6

Unlock the Problem

Real World

The city park covers 0.64 square mile. About 0.18 of the park is covered by water, and about 0.2 of the park is covered by paved walkways. Is more of the park covered by water or paved walkways?

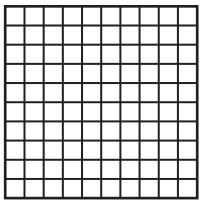
- Cross out unnecessary information.
- Circle numbers you will use.
- What do you need to find?

_____

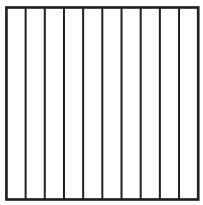
_____

One Way Use a model.

Shade 0.18.



Shade 0.2.



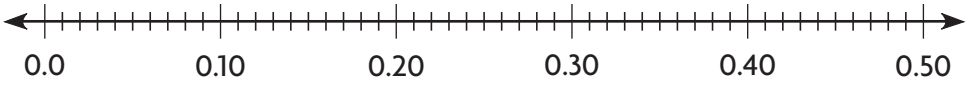
0.18 ◯ 0.2

Other Ways

A Use a number line.

Locate 0.18 and 0.2 on a number line.

Think: 2 tenths is equivalent to 20 hundredths.



_____ is closer to 0, so 0.18 ◯ 0.2.

Math Talk

MATHEMATICAL PRACTICES 6

Compare How does the number of tenths in 0.18 compare to the number of tenths in 0.2? Explain.

B Compare equal-size parts.

- 0.18 is _____ hundredths.
- 0.2 is 2 tenths, which is equivalent to _____ hundredths.

18 hundredths ◯ 20 hundredths, so 0.18 ◯ 0.2.

So, more of the park is covered by _____.

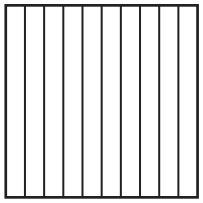
Place Value You can compare numbers written as decimals by using place value. Comparing decimals is like comparing whole numbers. Always compare the digits in the greatest place-value position first.

Example Use place value.

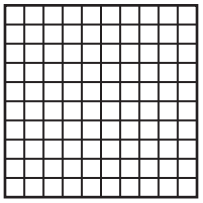
Tim has 0.5 dollar, and Sienna has 0.05 dollar. Who has more money?

MODEL

Tim



Sienna



So, _____ has more money.

RECORD

Ones	.	Tenths	Hundredths
	.		
	.		

← Tim

← Sienna

Think: The digits in the ones place are the same. Compare the digits in the tenths place.

5 tenths ◯ 0 tenths, so 0.5 ◯ 0.05.

- Compare the size of 1 tenth to the size of 1 hundredth. How could this help you compare 0.5 and 0.05? Explain.

_____

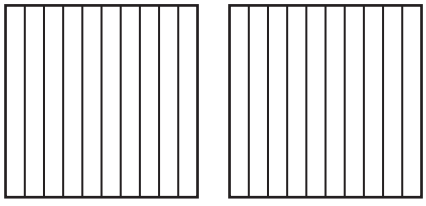
_____

_____

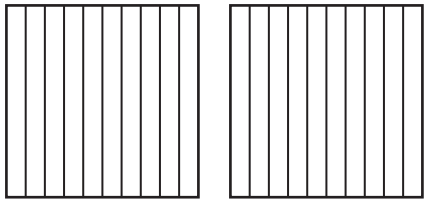
Try This! **Compare 1.3 and 0.6. Write <, >, or =.**

1.3 ◯ 0.6

Shade to model 1.3.



Shade to model 0.6.



Math Talk MATHEMATICAL PRACTICES 7

Look for Structure How could you use place value to compare 1.3 and 0.6?

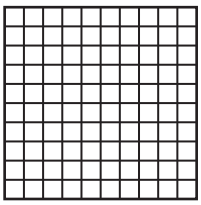
Name _____

Share and Show

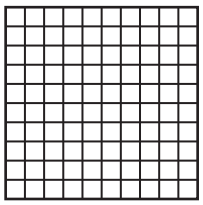
MATH BOARD

1. Compare 0.39 and 0.42. Write <, >, or =. Shade the model to help.

0.39 ◯ 0.42



0.39



0.42

Compare. Write <, >, or =.

2. 0.26 ◯ 0.23

Ones	.	Tenths	Hundredths
	.		
	.		

3. 0.7 ◯ 0.54

Ones	.	Tenths	Hundredths
	.		
	.		

4. 1.15 ◯ 1.3

Ones	.	Tenths	Hundredths
	.		
	.		

5. 4.5 ◯ 2.89

Ones	.	Tenths	Hundredths
	.		
	.		

Math Talk

MATHEMATICAL PRACTICES 2

Reason Abstractly Can you compare 0.39 and 0.42 by comparing only the tenths? Explain.

On Your Own

Compare. Write <, >, or =.

6. 0.9 ◯ 0.81

7. 1.06 ◯ 0.6

8. 0.25 ◯ 0.3

9. 2.61 ◯ 3.29

MATHEMATICAL PRACTICE 2 **Reason Quantitatively** **Compare. Write <, >, or =.**

10. 0.30 ◯ $\frac{3}{10}$

11. $\frac{4}{100}$ ◯ 0.2

12. 0.15 ◯ $\frac{1}{10}$

13. $\frac{1}{8}$ ◯ 0.8

14. GO DEEPER Robert had $14.53 in his pocket. Ivan had $14.25 in his pocket. Matt had $14.40 in his pocket. Who had more money, Robert or Matt? Did Ivan have more money than either Robert or Matt?

_____

Unlock the Problem Real World

15. THINK SMARTER Ricardo and Brandon ran a 1500-meter race. Ricardo finished in 4.89 minutes. Brandon finished in 4.83 minutes. What was the time of the runner who finished first?

Math on the Spot

a. What are you asked to find? _____

b. What do you need to do to find the answer? _____

_____

c. Solve the problem.

d. What was the time of the runner who finished first?

_____

e. Look back. Does your answer make sense? Explain.

_____

_____

_____

_____

16. GO DEEPER The Venus flytrap closes in 0.3 second and the waterwheel plant closes in 0.2 second. What decimal is halfway between 0.2 and 0.3? Explain.

_____

_____

_____

_____

Personal Math Trainer

17. THINK SMARTER+ For numbers 17a–17c, select True or False for the inequality.

17a.	$0.5 > 0.53$	○ True	○ False
17b.	$0.35 < 0.37$	○ True	○ False
17c.	$\$1.35 > \$0.35$	○ True	○ False

Name _____

Compare Decimals

Common Core **COMMON CORE STANDARDS—4.NF.C.7**
Understand decimal notation for fractions, and compare decimal fractions.

Compare. Write <, >, or =.

1. 0.35 (<) 0.53

Think: 3 tenths is less than 5 tenths.
So, 0.35 < 0.53

2. 0.6 ( ) 0.60

3. 0.24 ( ) 0.31

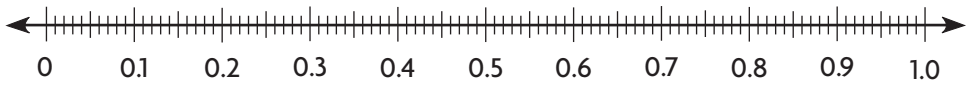
4. 0.94 ( ) 0.9

5. 0.3 ( ) 0.32

6. 0.45 ( ) 0.28

7. 0.39 ( ) 0.93

Use the number line to compare. Write *true* or *false*.



8. 0.8 > 0.78 _____

9. 0.4 > 0.84 _____

10. 0.7 < 0.70 _____

11. 0.4 > 0.04 _____

Compare. Write *true* or *false*.

12. 0.09 > 0.1 _____

13. 0.24 = 0.42 _____

14. 0.17 < 0.32 _____

15. 0.85 > 0.82 _____

Problem Solving Real World

16. Kelly walks 0.7 mile to school. Mary walks 0.49 mile to school. Write an inequality using <, >, or = to compare the distances they walk to school.

_____

17. WRITE Math Show or describe two different ways to complete the comparison using <, >, or =: 0.26 ( ) 0.4.

_____

_____

_____

Lesson Check (4.NF.C.7)

1. Bob, Cal, and Pete each made a stack of baseball cards. Bob's stack was 0.2 meter high. Cal's stack was 0.24 meter high. Pete's stack was 0.18 meter high. Write a number sentence that compares Cal's stack of cards to Pete's stack of cards.

2. Three classmates spent money at the school supplies store. Mark spent 0.5 dollar, Andre spent 0.45 dollar, and Raquel spent 0.52 dollar. Write a number sentence that compares the money Andre spent to the money that Mark spent.

Spiral Review (4.NF.B.3c, 4.NF.B.4c , 4.NF.C.5)

3. Pedro has $0.35 in his pocket. Alice has $0.40 in her pocket. How much money do Pedro and Alice have altogether?

4. The measure 62 centimeters is equivalent to $\frac{62}{100}$ meter. What is this measure written as a decimal?

5. Joel has 24 sports trophies. Of the trophies, $\frac{1}{8}$ are soccer trophies. How many soccer trophies does Joel have?

6. Molly's jump rope is $6\frac{1}{3}$ feet long. Gail's jump rope is $4\frac{2}{3}$ feet long. How much longer is Molly's jump rope?

FOR MORE PRACTICE GO TO THE Personal Math Trainer