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Chapter 8

Decimals

Practice 1 Understanding Thousandths

Write the decimal shown in each place-value chart.

Example

Ones	Tenths	Hundredths	Thousandths
	○ ○	○ ○ ○	○ ○ ○ ○ ○ ○ ○

0.237

1.

Ones	Tenths	Hundredths	Thousandths
○ ○ ○ ○		○ ○ ○ ○ ○	○ ○ ○ ○ ○

_____

2.

Ones	Tenths	Hundredths	Thousandths
○ ○ ○ ○ ○ ○			○ ○ ○ ○ ○ ○ ○ ○ ○

_____

Write the decimal shown in the place-value chart.

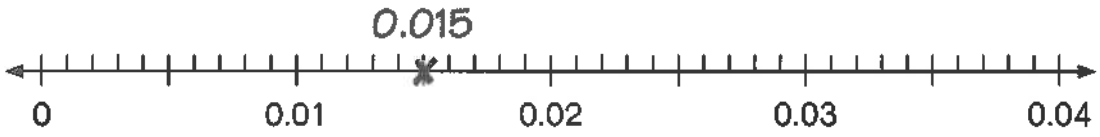
3.

Ones	Tenths	Hundredths	Thousandths
○ ○ ○ ○ ○	○ ○	○	

_____

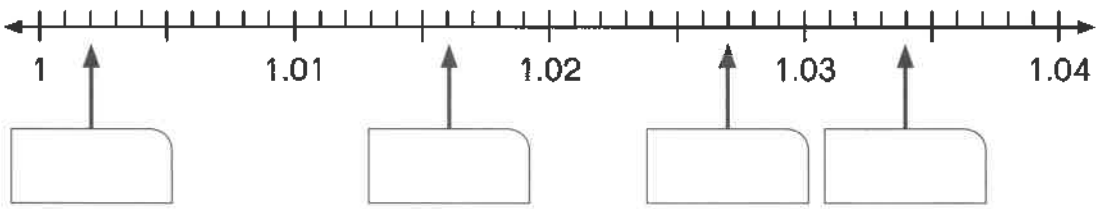
Mark X to show where each decimal is located.

4. 0.006 **5.** 0.024 **6.** 0.033



Write the decimal shown by each arrow.

7.



Complete.

8. 4 hundredths = _____ thousandths

9. 8 tenths 5 hundredths = _____ thousandths

10. 20 thousandths = _____ hundredths

11. 125 thousandths = 1 tenth _____ thousandths

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Complete.

12. 0.126 = 1 tenth 2 hundredths _____ thousandths

13. 0.352 = 3 tenths _____ hundredths 2 thousandths

Write the equivalent decimal.

14. 7 thousandths = _____

15. 19 thousandths = _____

16. 235 thousandths = _____

17. 300 thousandths = _____

Write each fraction as a decimal.

18. $\frac{13}{1000}$ = _____

19. $\frac{55}{1000}$ = _____

20. $\frac{228}{1000}$ = _____

21. $\frac{430}{1000}$ = _____

Write each mixed number as a decimal.

22. $2\frac{3}{1000}$ = _____

23. $6\frac{61}{1000}$ = _____

24. $7\frac{107}{1000}$ = _____

25. $8\frac{240}{1000}$ = _____

Write each improper fraction as a decimal.

26. $\frac{1005}{1000}$ = _____

27. $\frac{1013}{1000}$ = _____

28. $\frac{2341}{1000}$ = _____

29. $\frac{3450}{1000}$ = _____

Complete.

30. 0.014 = _____ thousandths

31. 0.178 = _____ thousandths

32. 0.76 = _____ thousandths

33. 1.035 = 1 one and _____ thousandths

1.234 can be written in expanded form as $1 + \frac{2}{10} + \frac{3}{100} + \frac{4}{1000}$.
Write each decimal in expanded notation.

34. 4.153 = $\square + \square + \square + \square$

35. 8.381 = $\square + \square + \square + \square$

9.876 can be written in expanded form as 9 + 0.8 + 0.07 + 0.006.
Write each decimal in expanded notation.

36. 6.426 = _____ + _____ + _____ + _____

37. 3.642 = _____ + _____ + _____ + _____

Complete.

In 5.074,

38. the digit 4 is in the _____ place.

39. the value of the digit 7 is _____.

40. the digit 0 is in the _____ place.

41. the digit 5 stands for _____.

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Practice 2 Comparing and Rounding Decimals

Compare the decimals in each place-value chart.

Fill in the blanks. Write > or < in the ◯.

Example

Ones	Tenths	Hundredths	Thousandths
0	0	2	
0	0	1	5

0.02 is greater than 0.015.

0.02 ◯(>) 0.015

1.

Ones	Tenths	Hundredths	Thousandths
0	3	0	8
0	2	9	

_____ is less than _____.

_____ ◯ _____

2.

Ones	Tenths	Hundredths	Thousandths
4	0	9	1
4	1	9	

_____ is less than _____.

_____ ◯ _____

Write the greater decimal.

3. 11.6 or 21.8 _____

4. 10.55 or 10.05 _____

5. 20.07 or 20.01 _____

6. 100.202 or 100.212 _____

Write >, <, or = in each ◯.

7. 3.7 ◯ 0.370

8. 0.150 ◯ 0.51

9. 0.205 ◯ 2.05

10. 2.3 ◯ 2.30

Circle the greatest decimal and underline the least.

11. 1.03, 1.3, 0.13

12. 0.5, 0.53, 0.503

13. 2.35, 2.305, 2.035

14. 8.7, 8.07, 8.701

Order the decimals from least to greatest.

Example

3.33, 3.03, 3.303 — 3.03, 3.303, 3.33

15. 5.51, 5.051, 5.501 _____

16. 4, 4.01, 4.001 _____

17. 0.023, 0.203, 0.230 _____

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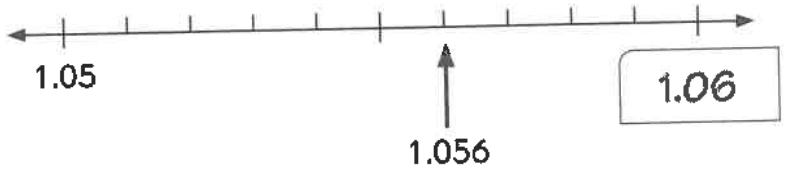
Write the missing decimal in each box. Round the given decimal to the nearest hundredth.

18.

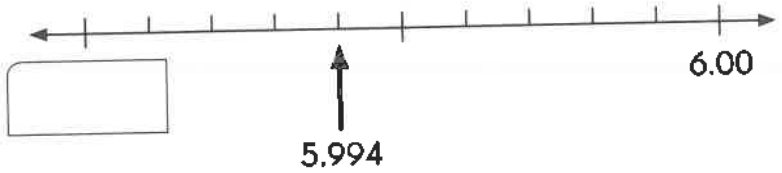


1.056 rounded to the nearest hundredth is _____.

19.

2.395 rounded to the nearest hundredth is _____.

20.



5.994 rounded to the nearest hundredth is _____.

Fill in the blanks.

21. The mass of a sewing needle is 0.585 gram.
Round the mass to the nearest hundredth of a gram.

0.585 g rounds to _____.

22. The width of a pinhead is 0.098 centimeter.
Round the width to two decimal places.

_____ rounds to _____.

23. 1 centimeter is equal to 0.394 inches.
Round 0.394 inches to the nearest hundredth of an inch.

_____ rounds to _____.

Round each decimal to the nearest whole number, nearest tenth, and nearest hundredth.

24.

Decimal	Rounded to the Nearest		
	Whole Number	Tenth	Hundredth
1.049			
3.753			
2.199			

Fill in the blanks.

25. A decimal rounded to the nearest tenth is 2.5.
Write two decimals that can be rounded to 2.5.

_____ and _____

26. A decimal rounded to the nearest hundredth is 4.09.
Write two decimals that can be rounded to 4.09.

_____ and _____

27. A decimal rounded to the nearest hundredth is 6.32.
This decimal is greater than 6.32.

What could this decimal be? _____

28. A decimal rounded to the nearest hundredth is 7.01.
This decimal is less than 7.01.

What could this decimal be? _____

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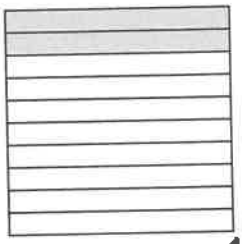
Practice 3 Rewriting Decimals as Fractions and Mixed Numbers

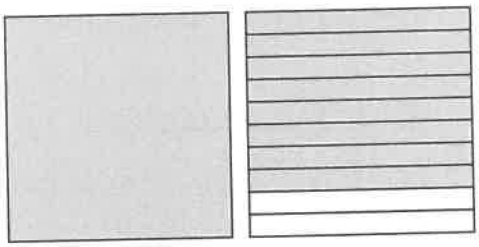
Rewrite each decimal as a fraction or mixed number in simplest form.

Example



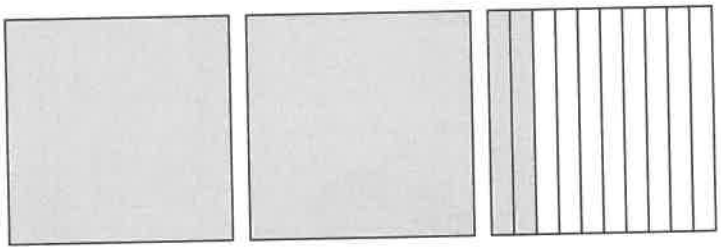
$0.2 = \frac{1}{5}$

1.



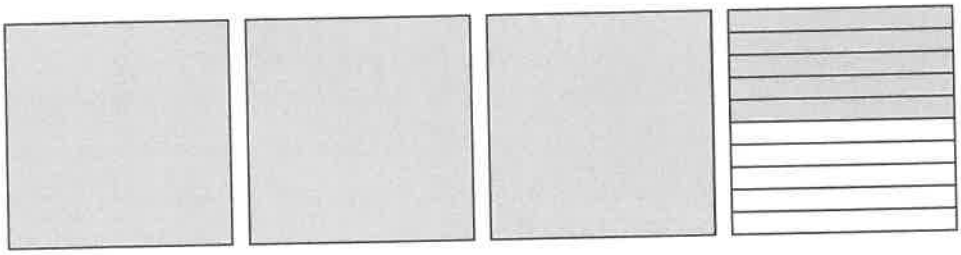
$1.8 =$ _____

2.



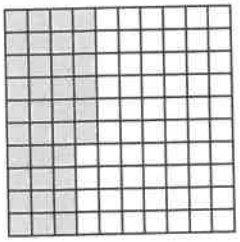
$2.2 =$ _____

3.



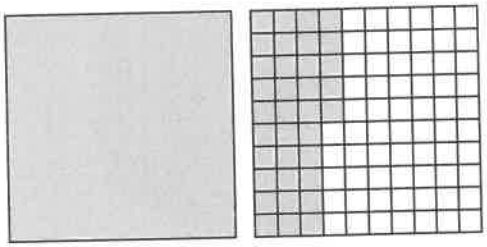
$3.5 =$ _____

4.



$0.36 =$ _____

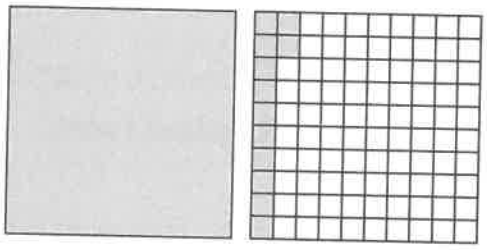
5.



$1.35 =$ _____

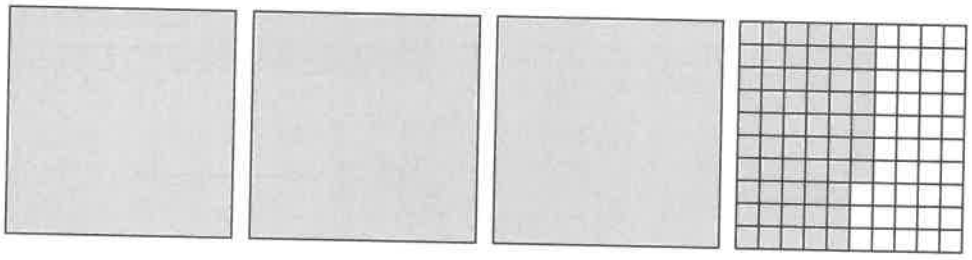
Rewrite each decimal as a fraction or mixed number in simplest form.

6.



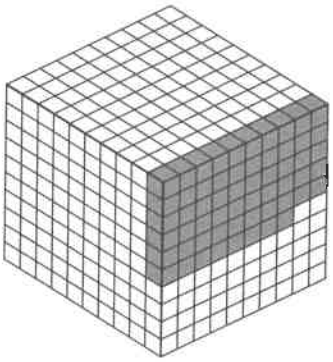
1.12 = _____

7.



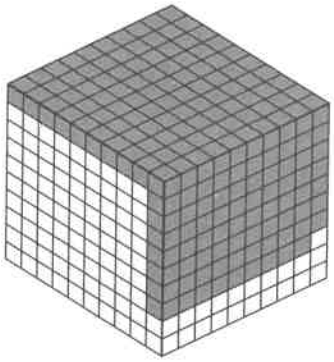
3.57 = _____

8.



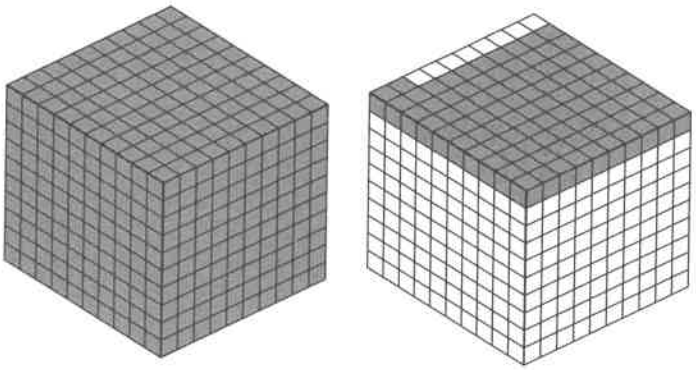
0.058 = _____

9.



0.169 = _____

10.



1.092 = _____

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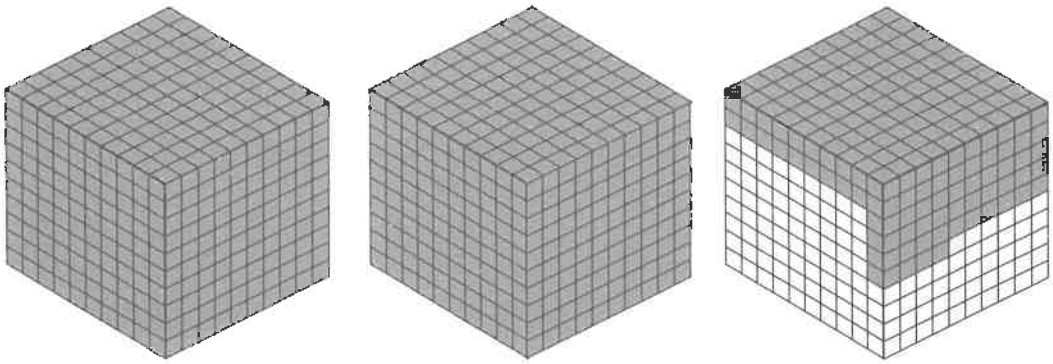
Rewrite the decimal as a mixed number in simplest form.

11.



2.235 = _____

Rewrite each decimal as a fraction or mixed number in simplest form.

12. 7.3

13. 26.9

14. 0.59

15. 15.82

16. 1.28

17. 4.109

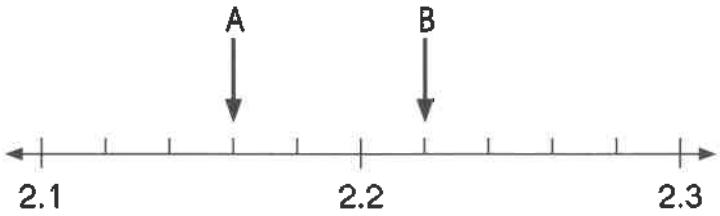
18. 0.136

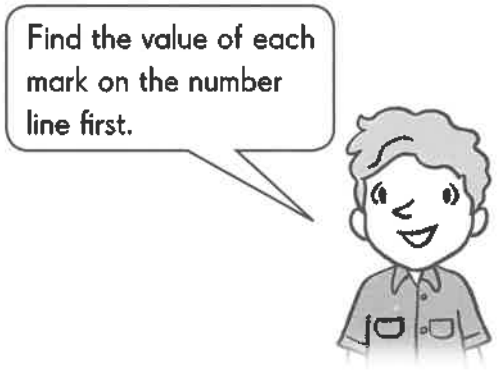
19. 3.602

Math Journal

1. Explain why 1.8, 1.80, and 1.800 have the same value.

2. Howard does not know how to find the values of A and B on the number line. Write the steps Howard should use to find these values.





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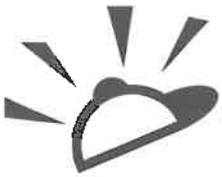

Put On Your Thinking Cap!

Challenging Practice

Solve.

1. You are given two numbers, 3.987 and 70.140.

a. Round each number to the nearest tenth.

b. Round each number to the nearest hundredth.

c. Find the difference between your rounded answers for 3.987.

d Find the difference between your rounded answers for 70.140.

e. Are your answers in Exercises **a** and **b** the same? Explain why or why not.

Complete.

2. $4.129 = 4 + \frac{1}{10} + \frac{29}{\square}$

3. $2.075 = 2 + \frac{\square}{1000} + \frac{5}{\square}$

4. $3.157 = \frac{\square}{1000} + \frac{7}{1000}$

Put On Your Thinking Cap!

Problem Solving

Solve. Show your work.

1. Kimberly has 3.25 kilograms of flour in a container. She adds 45 grams of flour to the container. How many kilograms of flour does she have now?

2. The weight of four objects are $3\frac{1}{5}$ pounds, $3\frac{39}{1000}$ pounds, $3\frac{99}{100}$ pounds and $3\frac{52}{10}$ pounds. Arrange the weights in order from least to greatest.