

Place Value

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Write the number.

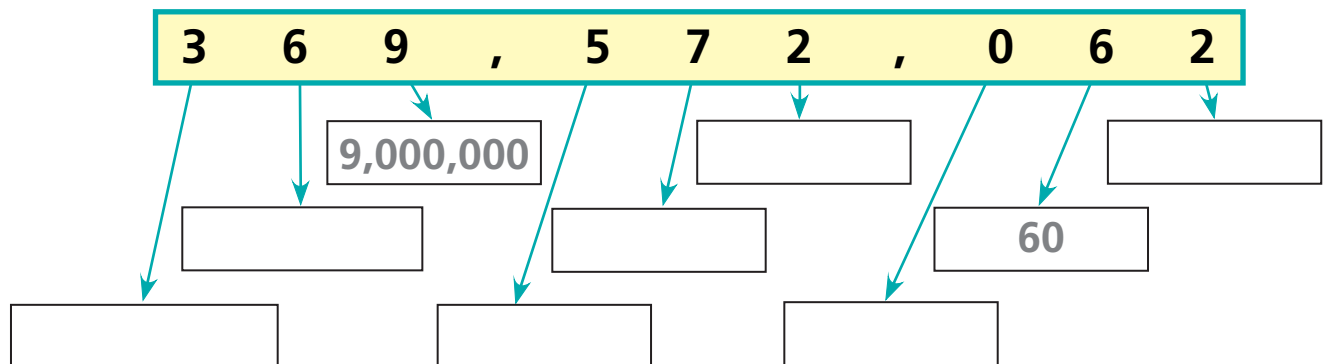
1 three hundred sixty thousand, two hundred seven 2 six million, fifty-four thousand, nine 3 two million, one hundred eight thousand, seventy-six

4 My tens digit is 9. My ones digit is 7. My thousands digit is 5.

My millions digit is 1. My hundred millions digit is 7.

All of my other digits are 0. 5 $8,000,000 + 500,000 + 7,000 + 900 + 4 =$ 6 00,000 + 0,000 + ,000 + 00 + 0 + = 793,065

7 Write the value of each digit.



Fill in $<$, $=$, or $>$.

8 1,250 ○ 1,520

9 787,099 ○ 787,100

10 6,135,000 ○ 6,153,000

11 2,005,607 ○ 2,010,580

12 989,000 ○ 979,956

13 1,650,207 ○ 1,506,720

Put these numbers in order from smallest to largest:

1,702,000 10,702,000 6,503 2,999 70,000
2,500 905,608 859,990 70,030

14

15

16

17

18

19

20

21

22

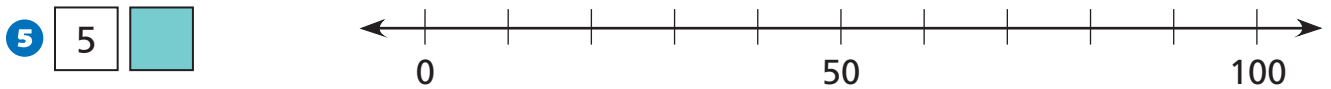
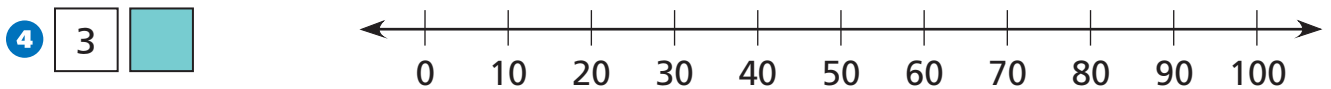
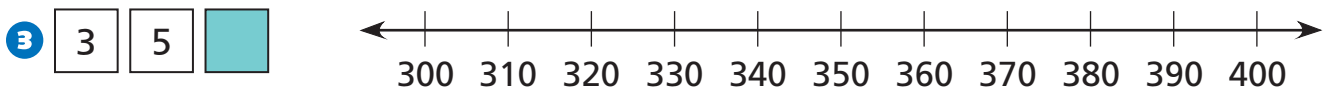
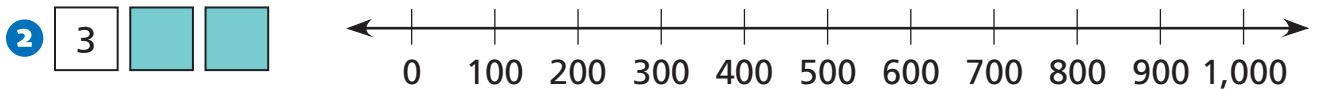
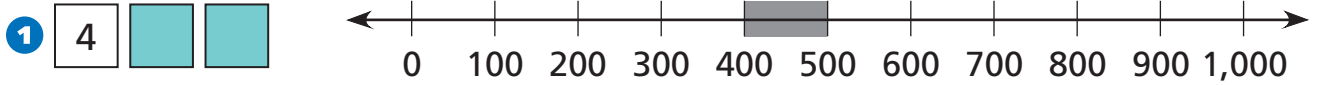


23 Challenge Explain how you decided on the order of the numbers in Problems 14–22.

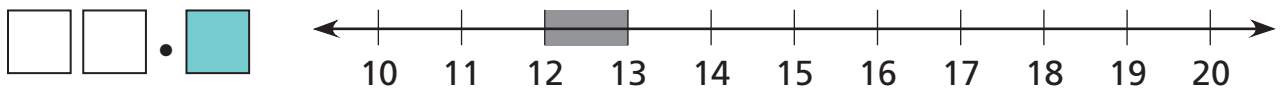
Introducing Decimals

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Shade part of each number line to show the space between two numbers where each number belongs.



9 Now use the shading on the number line to find the tens digit and the ones digit in the number.





10 Use a calculator to multiply these numbers between 4 and 5.

Numbers between 4 and 5	→ Numbers multiplied by themselves
4	
4.1	
4.2	
4.3	
5	

Fran multiplied a number by itself and got 20. Her number must be between two numbers in the left column above.

Her number must be between _____ and _____.

How do you know? _____

11 Challenge Name 2 numbers that are between 1 and 2.

_____ and _____

12 Challenge Name 2 numbers that are between the numbers you wrote in the problem to the left.

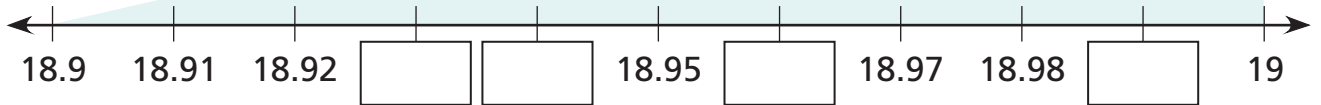
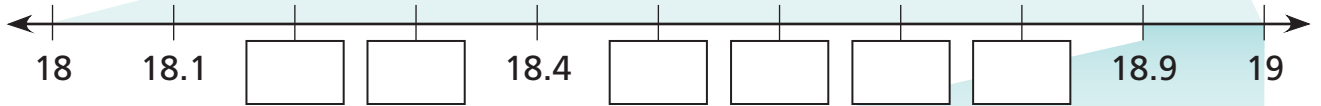
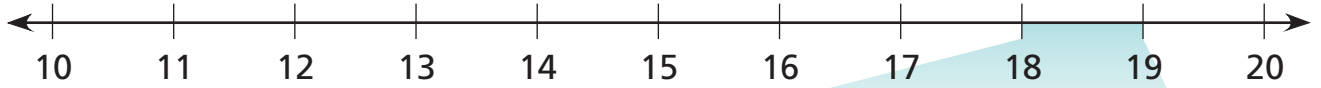
_____ and _____

Zooming in on the Number Line

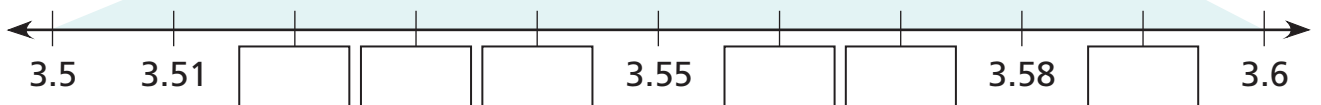
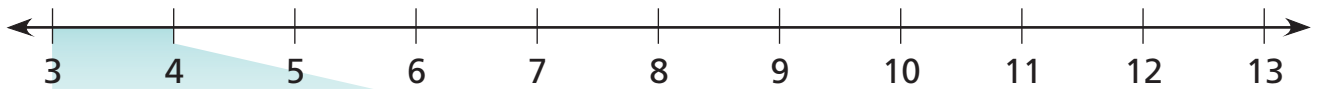
NCTM Standards 1, 2, 6, 7, 8, 9, 10

Fill in the missing numbers.

1



2





3 Use a calculator to multiply these numbers between 6.5 and 6.6.

Numbers between 6.5 and 6.6	Numbers multiplied by themselves
6.5	
6.51	
6.52	
6.6	

Paul multiplied a number by itself and got 43. His number must be between two numbers in the left column.

His number must be between _____ and _____.
How do you know?

4 **Challenge** Name three numbers between 3.65 and 3.66.

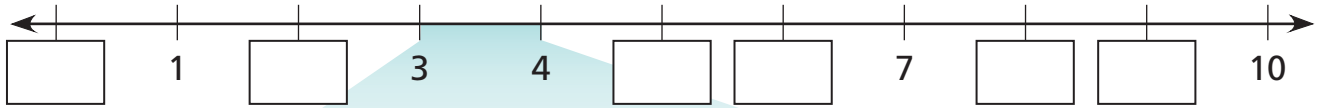
<input type="text"/>	<input type="text"/>	<input type="text"/>
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Decimals on the Number Line

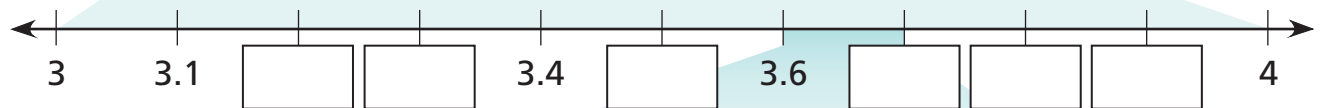
NCTM Standards 1, 2, 6, 7, 8, 9, 10

Fill in the missing numbers.

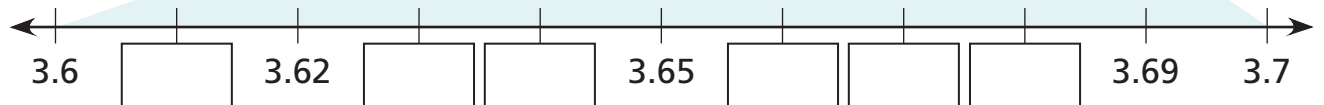
1



2



3

4 Use the number lines to compare the numbers. Write $<$ or $>$.

8 \bigcirc 5

3.2 \bigcirc 3.6

3.1 \bigcirc 3.4

3.8 \bigcirc 3.1

3.7 \bigcirc 3.6

3.5 \bigcirc 4

3.7 \bigcirc 3

3.7 \bigcirc 3.09

3.7 \bigcirc 4

3.7 \bigcirc 7

3.68 \bigcirc 3.7

3.64 \bigcirc 3.8

3.62 \bigcirc 3.7

3.64 \bigcirc 3.69

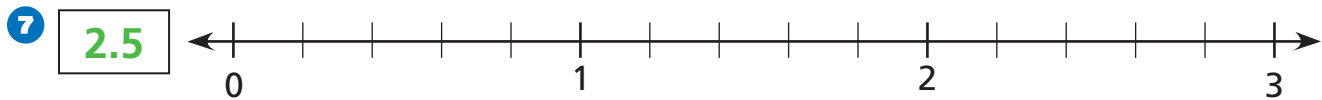
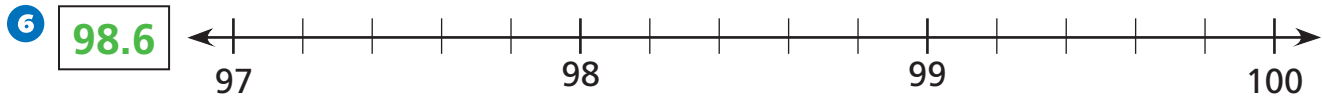
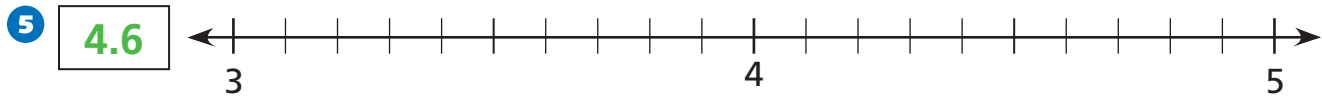
3.64 \bigcirc 3.66

3.69 \bigcirc 3.6

3.69 \bigcirc 3

3.64 \bigcirc 4

Write an \times to mark each number on the number line.



8 Abby, Julie, Rachel, and Sam were in a swimming race. These are their times:

Abby	27.03 seconds
Julie	27.3 seconds
Rachel	26.8 seconds
Sam	27.27 seconds

Who won the race? _____

Who came in 2nd place? _____

Who came in 3rd place? _____

Who came in 4th place? _____

9 Challenge

What number is halfway between 4 and 5? _____

What number is halfway between 4.2 and 4.3? _____

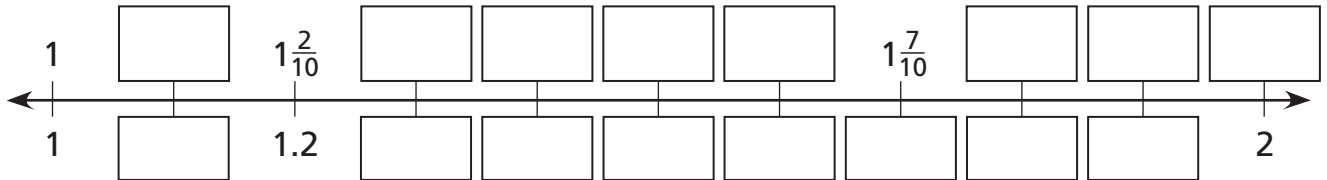
What number is halfway between 4.87 and 4.88? _____

Connecting Fractions and Decimals

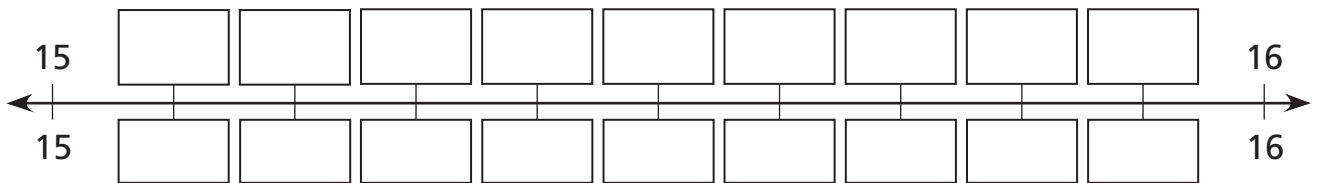
NCTM Standards 1, 2, 6, 7, 8, 9, 10

Label these number line points with both fractions and decimals.

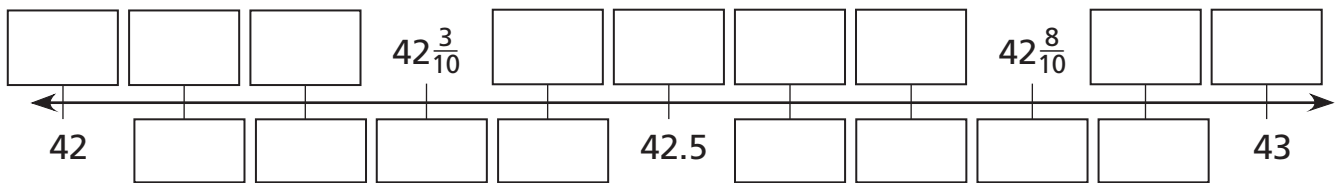
1



2

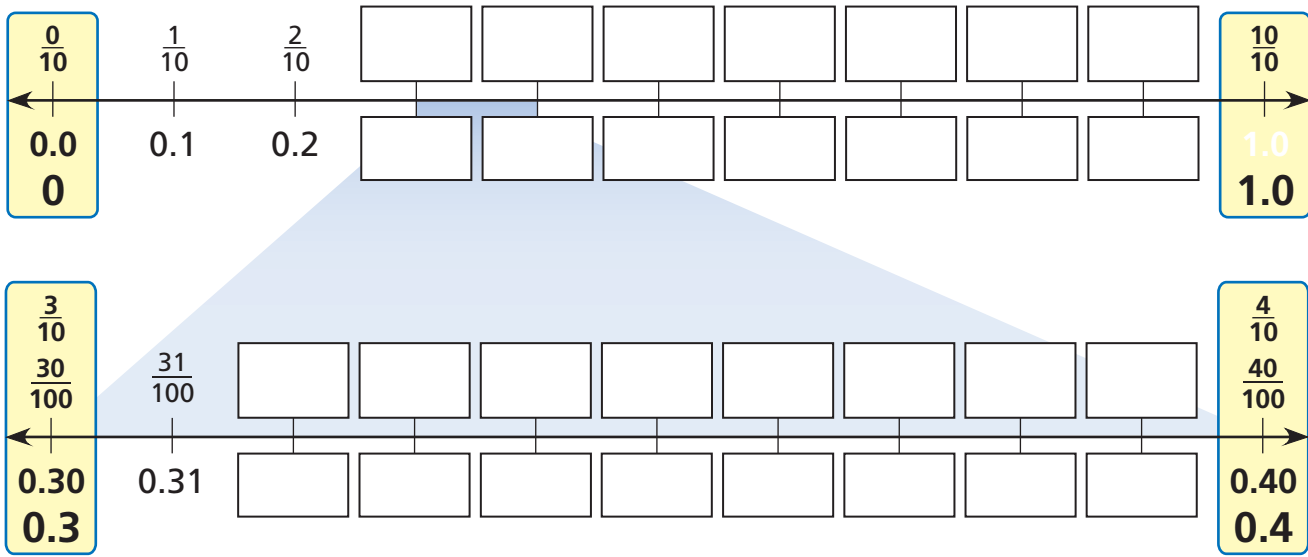


3



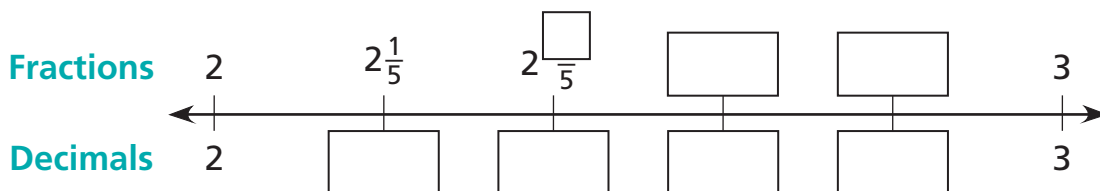
- 4 James and Ge earned \$13 doing yard work together. James said his half of the money was \$6.50. Ge said his half of the money was six and a half dollars. Who was right? Explain your answer.

5 Write the decimals and matching fractions.



6 Which is bigger, $\frac{4}{10}$ or 0.38? How do you know?

7 Challenge

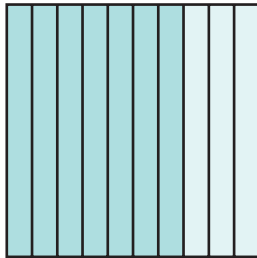


Representing Decimals Using a Grid

NCTM Standards 1, 2, 6, 7, 8, 9, 10

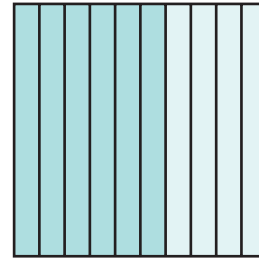
Write the decimal to show what parts of the square are shaded.

1



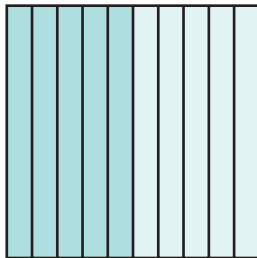
dark	0.7
light	

2



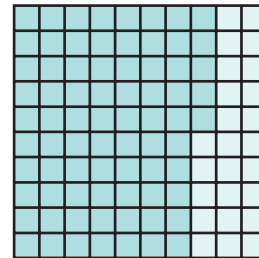
dark	
light	

3



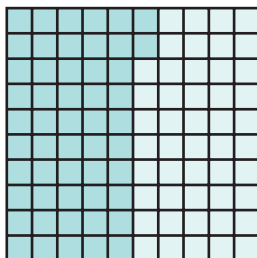
dark	
light	

4



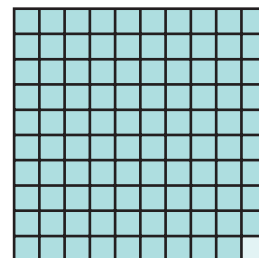
dark	
light	0.25

5



dark	
light	

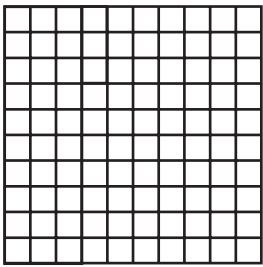
6



dark	
light	

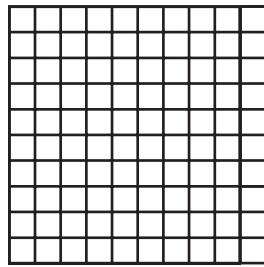
Shade each diagram to match the decimal.

7



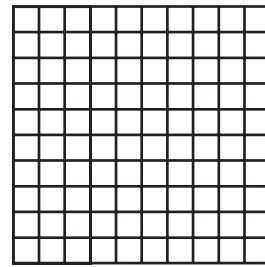
0.33

8



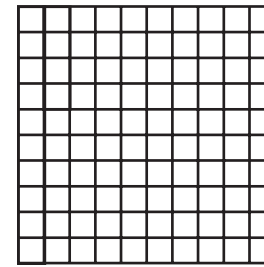
0.97

9



0.3

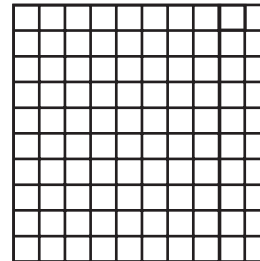
10



0.14

Write the above numbers in order from least to greatest.

11 Keith has \$1.00. He gave 53¢ to Connie, and he bought 4 stickers that cost 7¢ each. Use the grid to figure out how much money Keith has left.



\$0.

12 **Challenge** Put these numbers in order from least to greatest.

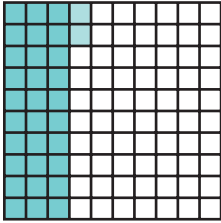
$\frac{1}{3}$ 0.5 0.97 $\frac{3}{4}$ 0.01 0.1 $\frac{2}{5}$

Representing Decimals Using Base-Ten Blocks

NCTM Standards 1, 2, 6, 7, 8, 9, 10

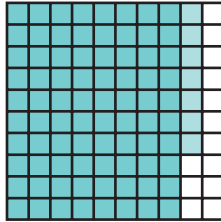
Use the clues to complete the tables.

1



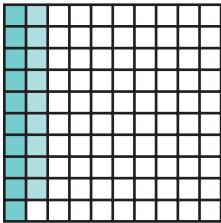
	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal	0.3	0.02		0.68
Fraction	$\frac{3}{10}$	$\frac{2}{100}$	$\frac{32}{100}$	

2



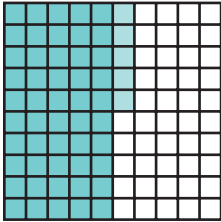
	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal	0.8			
Fraction				

3



	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal				
Fraction				

4



	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal				
Fraction				

Fill in the missing numbers.

5 $0.12 + 0.01 = 0.13 + 0.02 = \square + 0.04 = \square$

6 $0.28 - 0.02 = \square - 0.01 = \square - 0.03 = \square$

7 $1.73 + 0.04 = \square - 0.05 = \square + 0.01 = \square$

Use the clues to complete the table.

8	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal				
Fraction	$\frac{9}{10}$	$\frac{4}{100}$		

9	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal	0.6	0.07		
Fraction				

10	Dark Shading	Light Shading	Total Shaded	Total Unshaded
Decimal	0.4		0.46	
Fraction				

Compare the decimals. Write $<$, $>$, or $=$.

- 11 $0.6 \bigcirc 0.62$
 $0.79 \bigcirc 0.7$
 $0.43 \bigcirc 0.4$
 $0.5 \bigcirc 0.50$

- 12 $0.2 \bigcirc 0.19$
 $0.36 \bigcirc 0.2$
 $0.47 \bigcirc 0.8$
 $0.06 \bigcirc 0.1$

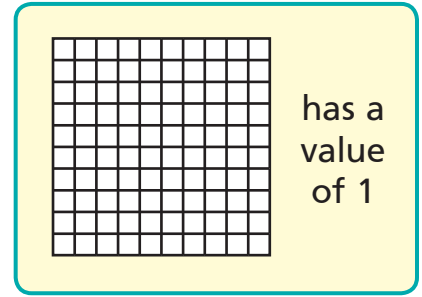
- 13 $0.11 \bigcirc 0.1$
 $0.01 \bigcirc 0.1$
 $0.01 \bigcirc 0.10$
 $0.10 \bigcirc 0.1$

14 **Challenge** Write the numbers from problem 12 in order from smallest to largest.

_____ / _____ / _____ / _____ / _____ / _____ / _____

Adding Decimals

NCTM Standards 1, 2, 6, 7, 8, 9, 10



Use the clues to fill in the missing numbers.
Use blocks to help you.

1

		0.24
0.5		

0.24	
+ 0.35	

2

		0.08

0.46	
+ 0.22	

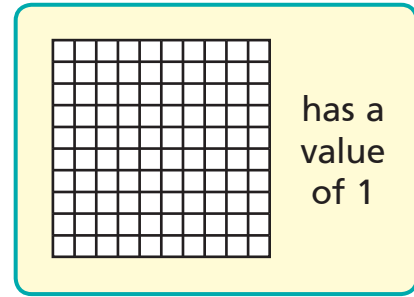
3

1.16	
+	

Use the clues to fill in the missing numbers.

4

0.6	0.03	
		0.54
1.1		



$$\begin{array}{r} \square \\ - 0.54 \\ \hline \square \end{array}$$

5

		0.48
0.9	0.13	

$$\begin{array}{r} 0.48 \\ + \square \\ \hline \square \end{array}$$

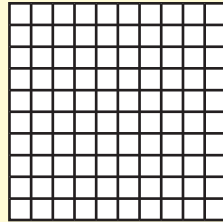


6 Challenge Use blocks to solve this problem. Show how you found your answer.

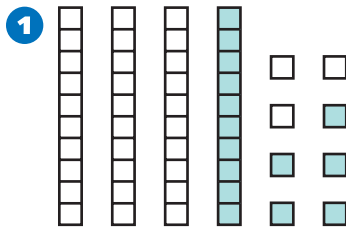
Frانيا's mom told her she could buy 3 pounds of candy for her party at the Secret Sweets store. Frانيا bought 1.28 pounds of malted milk balls, $\frac{53}{100}$ of a pound of gummy bears, and $\frac{2}{10}$ of a pound of licorice. How much did her candy weigh? Will she need to put some back? Explain.

Subtracting Decimals

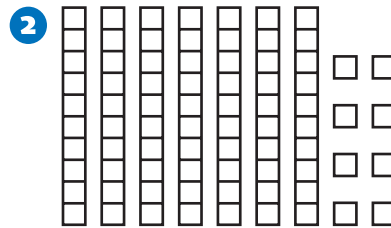
NCTM Standards 1, 2, 6, 7, 8, 9, 10



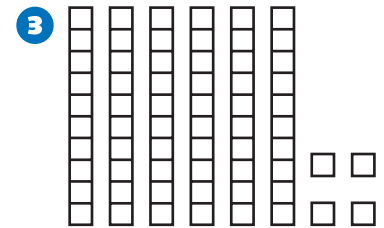
has a value of 1.

Subtract.

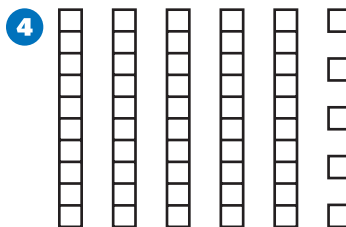
$$\begin{array}{r} 0.48 \\ - 0.15 \\ \hline \boxed{0.33} \end{array}$$



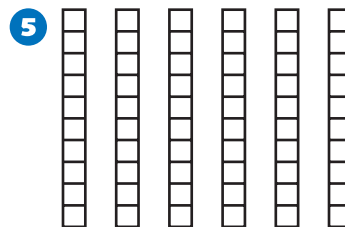
$$\begin{array}{r} 0.78 \\ - 0.36 \\ \hline \boxed{} \end{array}$$



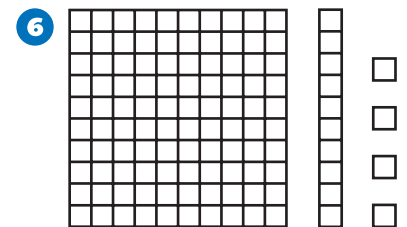
$$\begin{array}{r} 0.64 \\ - 0.29 \\ \hline \boxed{} \end{array}$$



$$\begin{array}{r} 0.55 \\ - 0.48 \\ \hline \boxed{} \end{array}$$



$$\begin{array}{r} 0.6 \\ - 0.24 \\ \hline \boxed{} \end{array}$$



$$\begin{array}{r} 1.14 \\ - 0.73 \\ \hline \boxed{} \end{array}$$



7 Stanley and Jeffrey earned \$9.50 mowing lawns. They used the money to buy 2 ice cream cones that each cost \$3.25. The remaining money they shared evenly. How much money will each of them get? Use blocks and pictures to help you. Explain how you found your answer.

$$\begin{array}{r} 8 \quad 2.25 \\ - 1.13 \\ \hline \square \end{array}$$

$$\begin{array}{r} 9 \quad 0.72 \\ - 0.44 \\ \hline \square \end{array}$$

$$\begin{array}{r} 10 \quad 1.35 \\ - 0.41 \\ \hline \square \end{array}$$

$$\begin{array}{r} 11 \quad 0.8 \\ - 0.73 \\ \hline \square \end{array}$$

$$\begin{array}{r} 12 \quad 0.11 \\ - 0.03 \\ \hline \square \end{array}$$

$$\begin{array}{r} 13 \quad 1.48 \\ - 0.96 \\ \hline \square \end{array}$$

14 Challenge

$$\begin{array}{r} 1.03 \\ - \square \\ \hline 0.18 \end{array}$$

$$\begin{array}{r} 2.3 \\ - \square \\ \hline 0.71 \end{array}$$

$$\begin{array}{r} 11.24 \\ - \square \\ \hline 4.89 \end{array}$$

Representing Decimals Using Money

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Use the clues to fill in the missing numbers.

1

Number of dimes	1	3			4	11		19	27	36
Decimal	0.10		0.90	0.80			1.30			

2

Number of pennies	37			1	8		119		207	
Decimal	0.37	0.49	0.18			0.36		1.93		6.35

3

Number of nickels	1			15	20	21			49	59
Decimal	0.05	0.25	0.45		1		1.50	1.65		

4 $\begin{array}{r} \$0.51 \\ + \$0.49 \\ \hline \end{array}$

5 $\begin{array}{r} \$0.96 \\ + \$0.04 \\ \hline \end{array}$

6 $\begin{array}{r} \$0.83 \\ + \$0.17 \\ \hline \end{array}$

$$\begin{array}{r} 7 \quad \$1.00 \\ - \$0.73 \\ \hline \square \end{array}$$

$$\begin{array}{r} 8 \quad \$1.00 \\ - \$0.89 \\ \hline \square \end{array}$$

$$\begin{array}{r} 9 \quad \$1.00 \\ - \$0.92 \\ \hline \square \end{array}$$

$$\begin{array}{r} 10 \quad \$1.30 \\ + \square \\ \hline \$2.00 \end{array}$$

$$\begin{array}{r} 11 \quad \$1.03 \\ + \square \\ \hline \$2.00 \end{array}$$

$$\begin{array}{r} 12 \quad \$0.71 \\ + \square \\ \hline \$2.00 \end{array}$$

$$\begin{array}{r} 13 \quad \$10.00 \\ - \square \\ \hline \$7.28 \end{array}$$

$$\begin{array}{r} 14 \quad \$20.00 \\ - \square \\ \hline \$12.72 \end{array}$$

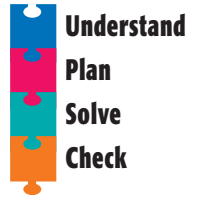
Challenge Use words, pictures, and numbers to show how you found your answers.

15 Letitia is collecting money for her youth group. Her goal is to have \$13.50 by Sunday. She's set aside \$6.73 of her own money, and her brother said he'd contribute the rest. How much will he need to give her? _____

16 Joneau and Sonya are having a contest to see who can save the most money. Joneau has \$15.68 saved up. When Sonya counts her money, she finds out that Joneau has \$3.29 more than she does. How much money has Sonya saved? _____

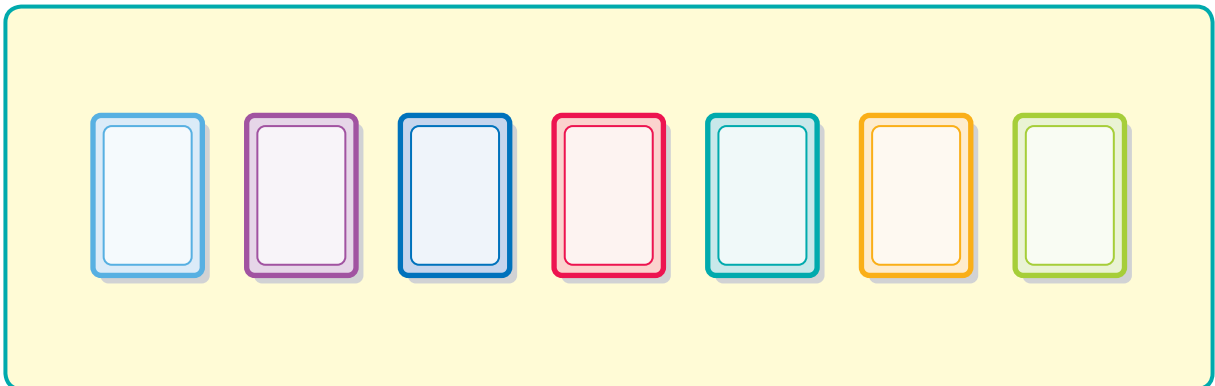
Problem Solving Strategy**Act It Out**

NCTM Standards 1, 2, 6, 8, 9, 10



- 1 Andy gave the cashier a \$5 bill to pay for a bag of chips that cost \$1.18 and a bottle of juice that cost \$0.97. How much change did the cashier give him?

- 2 Loni dealt out 100 cards to her 7 friends so that the friends could play a game. How many cards did each friend get, and how many cards were left over?



Each friend got _____ cards. There were _____ cards left over.

- 3 Four students lined up from shortest to tallest. Their heights were 4.17 feet, 4.1 feet, 4.71 feet, and 4.7 feet. Celia was taller than Mora but shorter than Soong. Huong was 4.17 feet tall. What was each student's height?

Celia: _____

Mora: _____

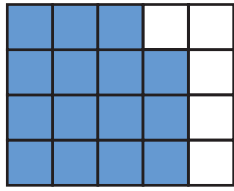
Soong: _____

Huong: _____

Problem Solving Test Prep

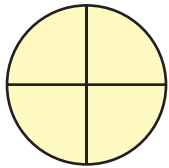
Choose the correct answer.

- 1 Which number sentence can be represented by the picture?



- A. $(3 \times 3) + 3 = 12$
- B. $(3 \times 4) + 3 = 15$
- C. $(4 \times 4) + 3 = 19$
- D. $(4 \times 5) + 3 = 23$

- 3 Irina begins making a fair spinner by drawing the figure shown here. Which could NOT be the final number of sections on the spinner if she continues to divide the sections equally?

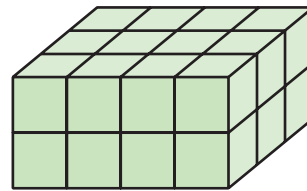


- A. 6
- B. 8
- C. 12
- D. 16

- 2 Which quadrilateral has more than one line of symmetry?



- 4 What is the volume of the box in cubic units?



- A. 12 cubic units
- B. 18 cubic units
- C. 24 cubic units
- D. 30 cubic units

Show What You Know

Solve each problem. Explain your answer.

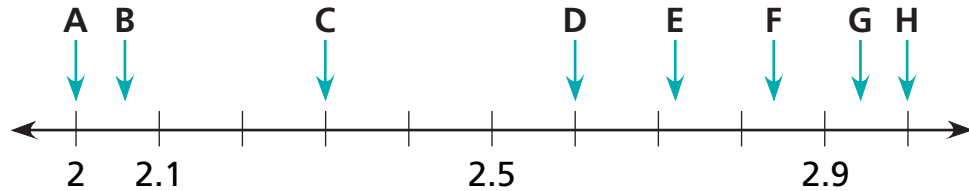
- 5 Ms. Ford buys 6 packages of hamburger rolls. Each package costs \$1.49. She pays with a \$10 bill. The clerk gives her \$2.06 in change. Is the clerk correct? Explain.

- 6 Ramon folds a square sheet of paper in half, in half again, and then in half one more time. Then he unfolds it. What fraction of the paper is each of the smallest sections? Explain.

Review/Assessment

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Write the letter that matches each number's location on the number line. *Lessons 1-4*



- 1 2.3 _____
- 2 2.06 _____
- 3 2.72 _____
- 4 2.94 _____

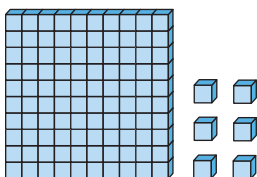
Complete the table. *Lesson 5*

	5	6	7
Fraction		$4\frac{48}{100}$	
Decimal	0.3		5.03

Add or subtract. *Lessons 8, 9*

8
$$\begin{array}{r} 1.25 \\ + 1.06 \\ \hline \square \end{array}$$

9
$$\begin{array}{r} 0.43 \\ - 0.37 \\ \hline \square \end{array}$$



Solve. Lessons 3–7, 10

10 Four students ran 100 yards. Their times, in seconds, are 12.17, 12.1, 12.71, and 12.70. Write their times in order from fastest to slowest.

_____ least _____ greatest

11 Luis spent \$9.47 at the grocery store. He paid for his items with a \$20 bill. How much change did he receive?

Compare the numbers. Lessons 3–7

12 9,908,302 ○ 9,980,302

13 3.78 ○ 3.7

14 1,301,000 ○ 1,300,792

15 0.2 ○ 0.20

Solve. Lessons 8, 10

16 Kaitlyn bought two watermelons. One weighed 6.37 pounds and the other weighed 8.58 pounds. What was the total weight of the two watermelons?

17 Latoria bought a new notebook for \$2.59 and a new pen for \$0.95. She paid the cashier \$4.00. What coins did she receive as change? Show your work.

