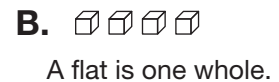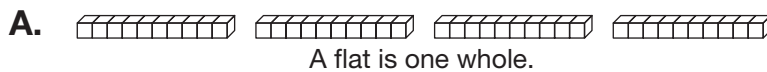# Moving Ahead with Decimals

Showing Decimals

✓ Self-Check: Questions 1 and 2

1. Roberto and his friends showed *four-tenths* several ways. Circle those that are correct.
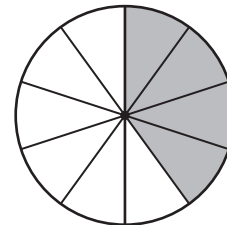
A. ▭▭▭▭ ▭▭▭▭ ▭▭▭▭ ▭▭▭▭
A flat is one whole.

B. ▱ ▱ ▱ ▱
A flat is one whole.

C. $\dfrac{4}{100}$ **D.** $\dfrac{4}{10}$ **E.** 0.4   **F.**

A circle is 1 whole.

G.
0.4
0   1

H.

$0.04
A dollar is one whole.

I.

$0.40
A dollar is one whole.

2. A. Write 0.25 as a common fraction and with words. Use the *Writing Numbers with Words* page in the *Student Guide* Reference section.

B. Show 0.25 two more ways.

0   0.5   1
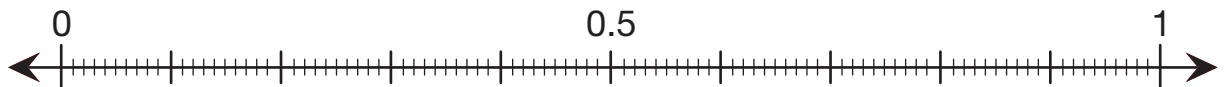
Circle one group of problems in each row to complete.

Workshop Menu			
Can I Do This?	▲ **Working On It!** I could use some extra help. *Ming*	● **Getting It!** I just need some more practice. *Linda*	■ **Got It!** I'm ready for a challenge. *Shannon*
Show a decimal in different ways.	**Questions 3, 4, 5**	**Questions 8–10**	**Questions 8, 10, 11, 12**
Read and write decimals with words and numbers.	**Questions 6–7**	**Question 7**	**Question 13**

Use skinnies and bits to help you answer Questions 3–4.

▲☐☐ **3.** **A.** Frank used skinnies to measure a piece of ribbon. If a skinny is one-tenth of a meter, how long is the ribbon?
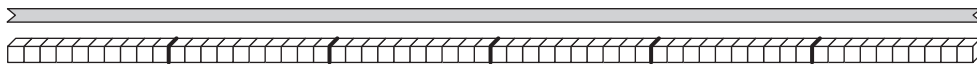

B. Frank said the ribbon is sixty-hundredths of a meter. Do you agree with Frank? Why or why not?

C. Write the ribbon length to the nearest tenth of a meter as a decimal.

▲☐☐ **4.** **A.** Maya's ribbon measured four skinnies and eight bits. How long is Maya's ribbon to the nearest tenth of a meter? Use decimals.

B. How long is Maya's ribbon to the nearest hundredth of a meter? Use decimals.

C. Whose ribbon is longer? Frank's or Maya's? Show how you know.

Use skinnies, bits, and a meterstick to help you answer Questions 5–6.

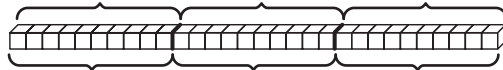▲ ☐ ☐ **5.** Shannon showed how she counted tenths using base-ten pieces.

one-tenth   two-tenths   three-tenths
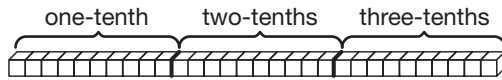
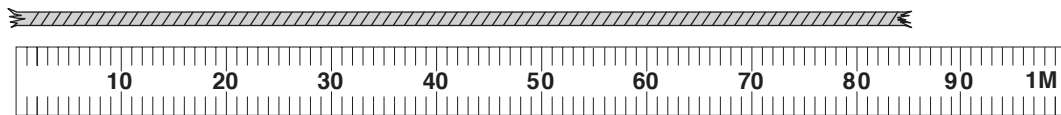**A.** Write Shannon's counts with decimals.

decimals: _____ _____ _____

B. Show how Shannon could count the same pieces by hundredths instead of tenths. Write your counts with words and with decimals.
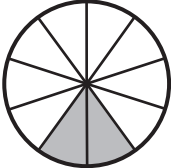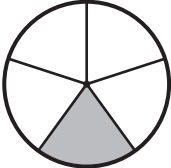
words: _____ _____ _____

decimals: _____ _____ _____
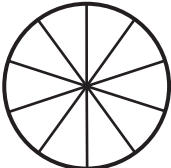
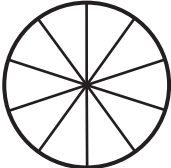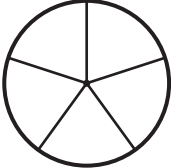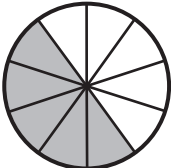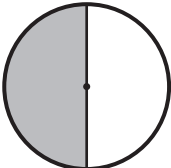▲ ☐ ☐ **6.** Ana measured a length of rope to the nearest hundredth of a meter.

10   20   30   40   50   60   70   80   90   1M

Write her measurement three ways:
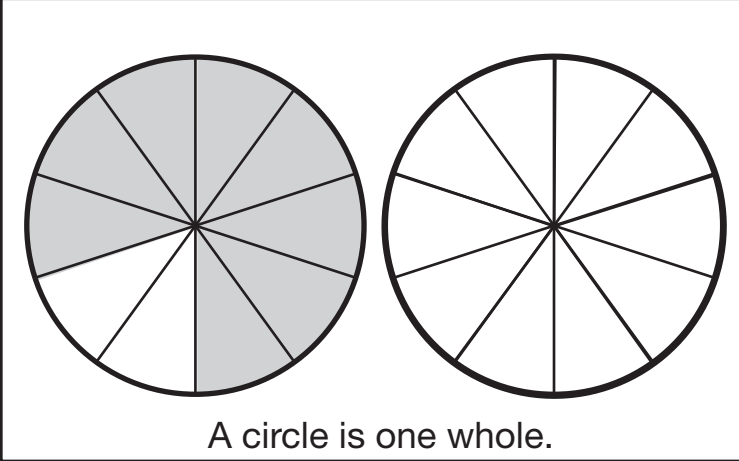
_____   _____   _____
     common fraction   decimal   words

Name _____   Date _____

7. Fill in the chart. The first row is an example. The red circle is one whole. Use the *Writing Numbers with Words* page in the *Student Guide* Reference section.

	Drawing	Fraction in Words	Fraction	Decimal
Example		two-tenths	$\frac{2}{10}$	0.2
A.			$\frac{1}{5}$	0.2
B.			$\frac{3}{10}$	
C.		four-tenths		
D.			$\frac{2}{5}$	
E.		five-tenths		
F.			$\frac{1}{2}$	

8. Show the fractions in each box four ways. The first one is an example. Use the *Writing Numbers with Words* page in the *Student Guide* Reference section.
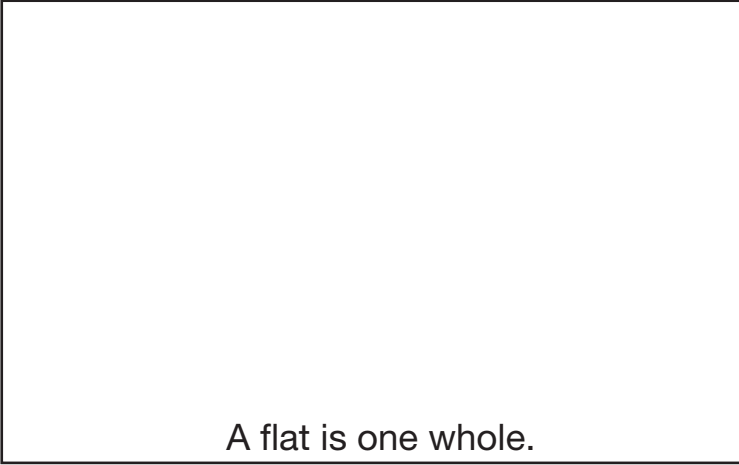

Example

0.8
decimal fraction

$\frac{8}{10}$
common fraction

A circle is one whole.

eight-tenths
words

```
0                           0.5                          1
←|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|●╀╀╀|╀╀╀╀|→
                                                    0.8
```

number line

8A.

decimal fraction

$\frac{22}{100}$
common fraction

A flat is one whole.
drawing

words

```
0                           0.5                          1
←|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|╀╀╀╀|→
```

number line

8B.

_____
decimal fraction

_____
common fraction

one and fifty-two hundredths
of a meter
_____
words

A flat is one whole.
drawing

| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 1M | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 1M |
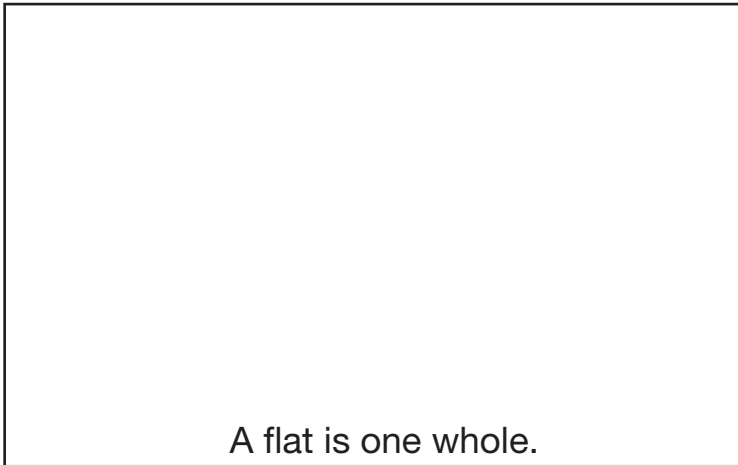
metersticks

8C.

0.72
_____
decimal fraction

_____
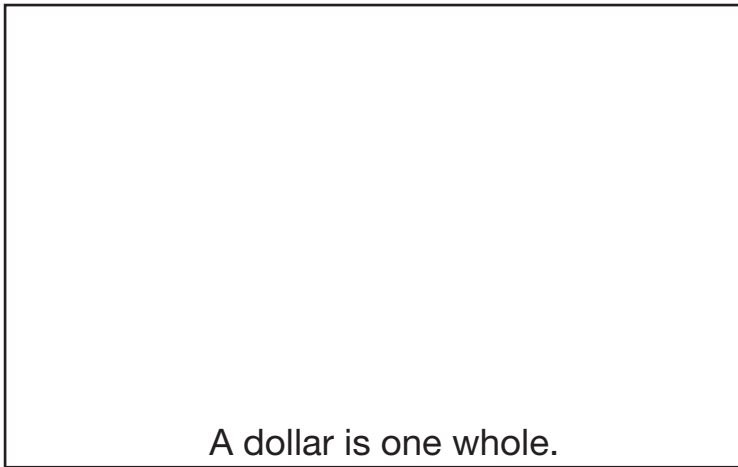common fraction

_____
words

A dollar is one whole.
drawing

0   0.5   1
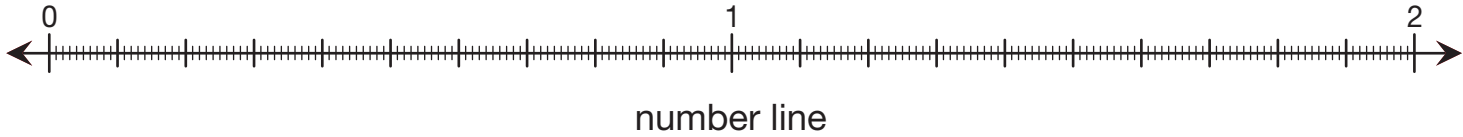
number line

Name _____ Date _____

8D.

_____   _____
decimal fraction   common fraction

_____
words

A flat is one whole.

0   1   2

number line

8E.

1.25   _____
decimal fraction   common fraction

_____
words

A circle is one whole.
drawing

0   1   2

number line
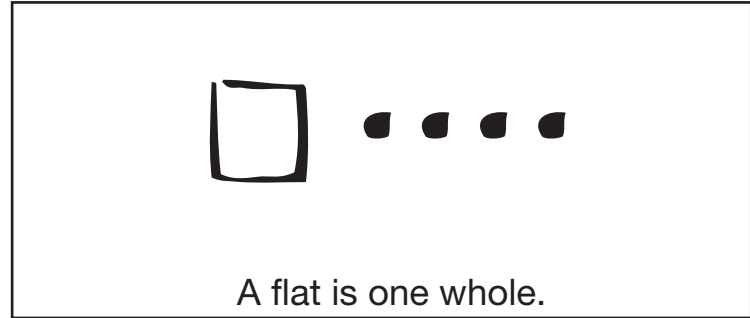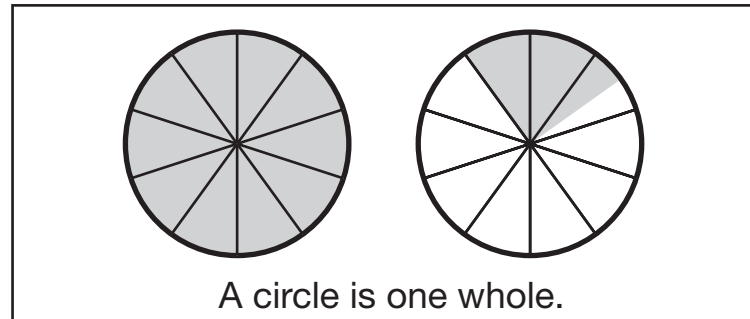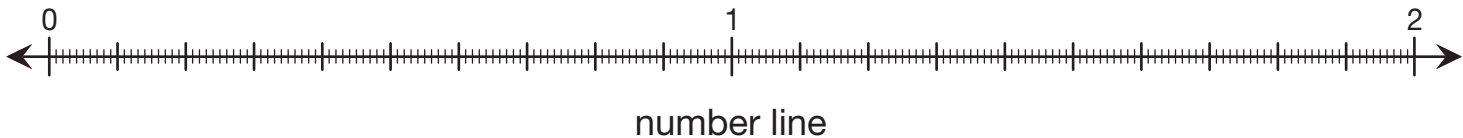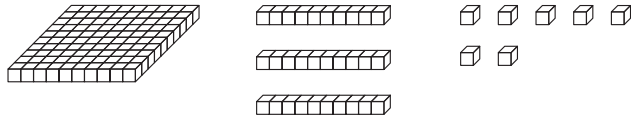
9. For the base-ten pieces shown below, the flat is the unit whole.

    A. What number is shown by the flat?

    B. What decimal is shown by the skinnies?

    C. What decimal is shown by the bits?

    D. Use the information from Questions A–C to write a number sentence to show the value of the decimal shown by all the pieces combined.

    E. Write the decimal in words.

10. Fill in the missing information in the place value table. In the last column, write a number sentence that shows what each digit stands for.

	Number	Tens	Ones	.	Tenths	Hundredths	Number Sentence
					Place Value		
Example	4.56	0	4	.	5	6	$4 + 0.5 + 0.06 = 4.56$
A.		0	4	.	6	0	
B.				.			$4 + 0.5 + 0.01 = 4.51$
C.		4	0	.	0	6	
D.							$40 + 0.6 = 40.6$

    E. Show the numbers in Questions A and B in base-ten shorthand if a flat is one whole.

11. Show 3.67 four ways.

12. Shade the grids below to show 1.53. One square grid is one whole.
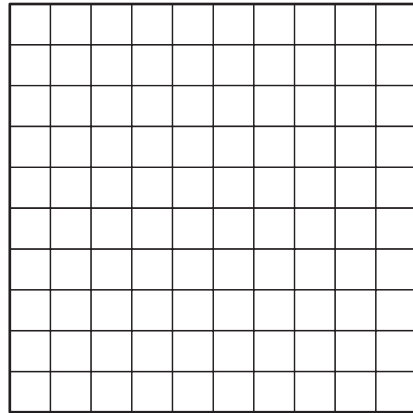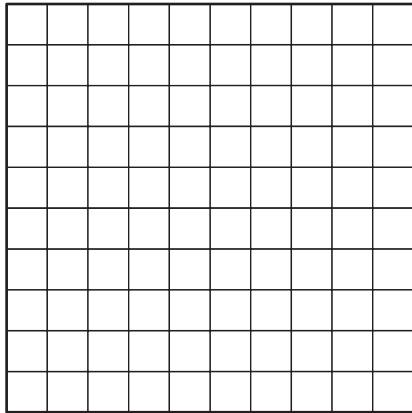
13. Keenya showed a number on the grids below. If one square is one whole, what number did Keenya represent? Write your answer as a decimal.
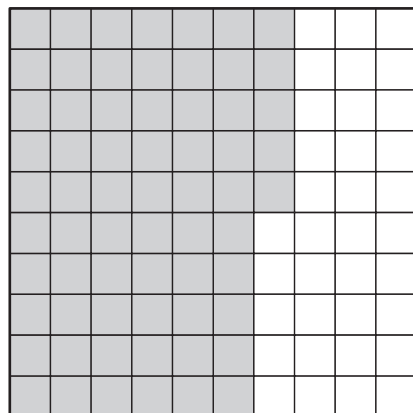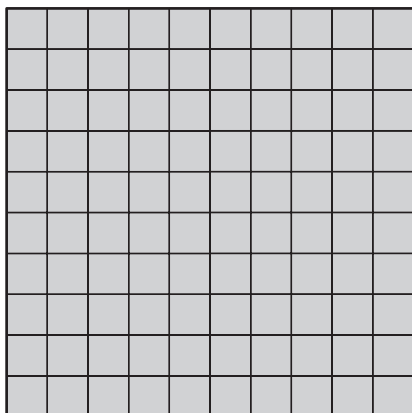
Name _____   Date _____

Comparing and Ordering Decimals

✓ Self-Check: Questions 14 and 15

Use base-ten pieces or metersticks to help you.

14. Put the following numbers in order from smallest to largest.

$$0.8 \qquad 0.08 \qquad 1.4 \qquad 1.38 \qquad 0.24 \qquad \frac{2}{10}$$

_____ _____ _____ _____ _____ _____

smallest   largest

15. Use <, >, or = to make the number sentences below true.

A. 1.2 ◯ 0.8   **B.** 0.6 ◯ 0.06   **C.** 2.6 ◯ 2.58   **D.** $\frac{7}{10}$ ◯ 0.7   **E.** 0.07 ◯ $\frac{5}{100}$

F. Explain your thinking for Question 15C.

Use the Self-Check Questions and menu to choose practice with comparing and ordering decimals.

Workshop Menu			
Can I Do This?	▲ **Working On It!** I could use some extra help. *Jessie*	● **Getting It!** I just need some more practice. *Michael*	■ **Got It!** I'm ready for a challenge. *Irma*
Compare and order decimals.	**Questions 16–21**	**Questions 18, 20–24**	**Questions 18, 24–26**

Name _____   Date _____

16. Use <, >, or = to make the number sentences below true.

A.

.07   ◯   0.7

B.

0.3   ◯ $\frac{8}{10}$

C.

0.45   ◯   0.5

D.

0.33   ◯   0.03

E.

0.6   ◯   0.43

F.   1.35   ◯   1.7

G.

0.68 |——→ 0   ◯   0.86 |——→ 1

H.   0.07   ◯   0.70

I.   2.12   ◯   2.21
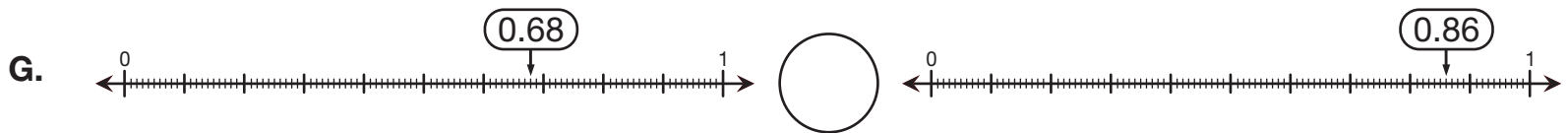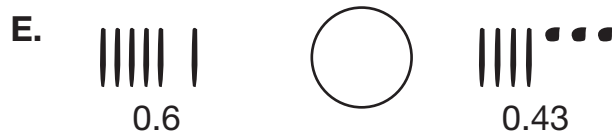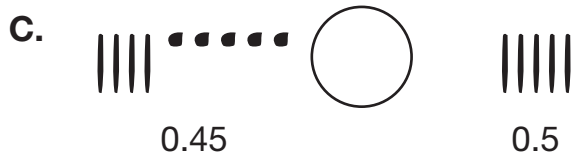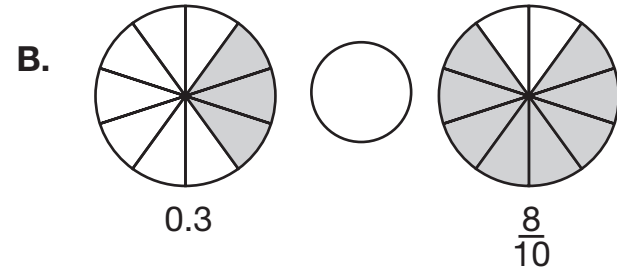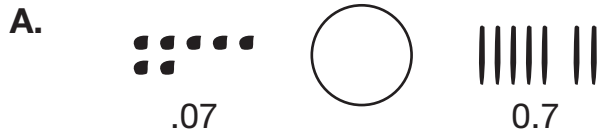
■▲□□ **17.** For Questions A–F, write each decimal beneath the correct base-ten shorthand.
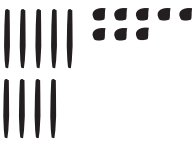
0.47   0.45   0.02   0.98   1.00   0.8

A.

_____

B.

_____

C.

_____

D.

_____

E.

_____

F.

_____

G. Put the numbers in Questions A–F in order from smallest to largest.

_____ _____ _____ _____ _____ _____
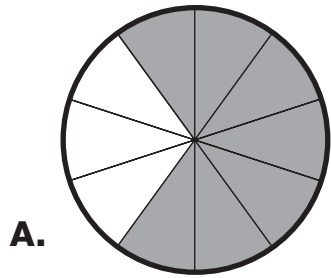
smallest   largest

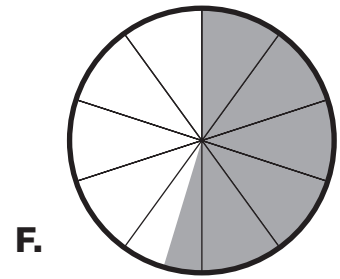**H.** Check your answer to Question G by putting each number where it belongs on the number line.

0   0.5   1

▲●■ 18. For Questions A–F, write each decimal beneath the correct fraction circle.

0.7 $\frac{1}{100}$ 0.1   0.9   0.8   0.55

A.   **B.**   **C.**

_____   _____   _____

D.   **E.**   **F.**

_____   _____   _____
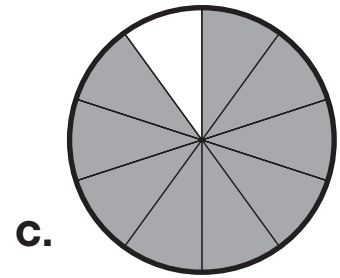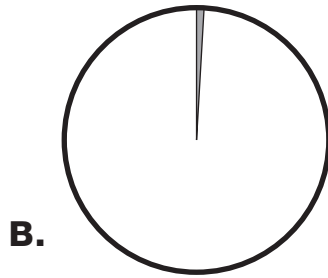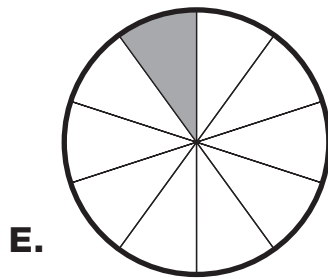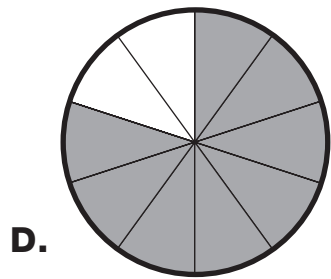
G. Put each number where it belongs on the number line.

0   0.5   1

▲▢▢ 19. Show the following numbers using base-ten shorthand. A flat is one whole.

Example: 2.40   ▢▢ |||| _____

A. 2.43   _____

B. 2.5   _____

C. 0.02   _____

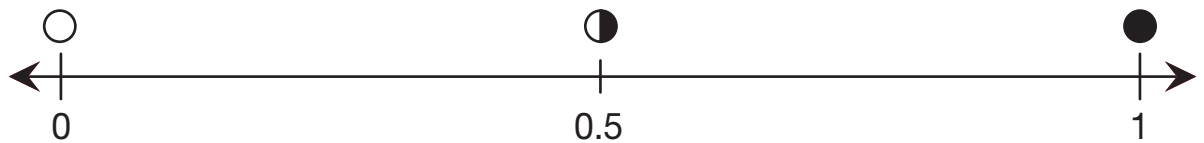**D.** 0.4   _____

E. 0.43   _____

▲●▢ 20. Order the numbers in Question 19 from smallest to largest. Include the example.

_____ _____ _____ _____ _____ _____

smallest   largest

▲●▢ 21. Irma compared 0.4 and 0.43.

0.4 > 0.43
0.4 or four-tenths is larger than forty-three hundredths because tenths are bigger than those little hundredths.

Irma

Do you agree with Irma? Why or why not?

▢●▢ 22. Ming compared two decimals.

Thirty hundredths is equal to three-tenths because thirty bits looks like it is the same length as three skinnies.

Ming

Do you agree with Ming? Why or why not?

■●■ 23. Use <, >, or = to make the number sentences below true.

A. 3.25 ◯ 3.52   **B.** $2\frac{3}{10}$ ◯ 2.33

C. 0.14 ◯ $\frac{14}{100}$ **D.** 0.61 ◯ 0.60

E. 1.03 ◯ 1.02   **F.** 2.55 ◯ $2\frac{5}{10}$

G. Show your thinking for Question 23F.

■●■ 24. Use your responses in Question 23 to put the following numbers in order from smallest to largest. If two numbers are equal, put them on the same line.
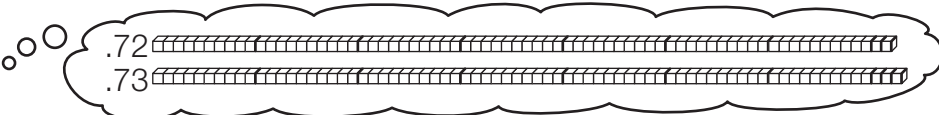
A. 0.14   0.61   0.60 $\frac{14}{100}$

_____   _____   _____   _____
smallest   largest

B. 2.55 $2\frac{5}{10}$ 2.33 $2\frac{3}{10}$

_____   _____   _____   _____
smallest   largest

■ 25. Jerome showed how he compared 0.72 and 0.73.

.72 [illustration of skinnies and bits]
.73 [illustration of skinnies and bits]

Jerome

0.73 ⊘ 0.72. I pictured skinnies and bits lined up. 0.73 has one more bit.

Do you agree with Jerome? Why or why not?

26. Like Jerome, show your thinking as you compare each set of numbers.

A. Compare 2.01 and 2.10.

B. Compare 0.43 and 0.08.

C. Compare 0.6 and 0.60.