

# Placing the Decimal Point

## Lesson 3-1

DATE

TIME

### Math Message

- 1 Place decimal points to match the numbers written in words. Record the value of each digit in your number. The first one is done for you.

Number in Words	Standard Notation	Value of "3"	Value of "2"	Value of "0"	Value of "4"
Three hundred twenty and four tenths	3 2 0 . 4	300	20	0	0.4
a. Thirty-two and four hundredths	3 2 . 0 4	30	2	0	.04
b. Three and two hundred four thousandths	3 . 2 0 4	3	.2	0	.004
c. Three thousand two hundred four	3 2 0 4	3,000	200	0	4

# Many Names for Decimals

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A. Decimals can be written as equivalent fractions.

Examples:

①

$$0.6 = \frac{6}{10} = \frac{60}{100} = \frac{3}{5} = \frac{15}{25}$$

$$4.72 = 4\frac{72}{100} = \frac{472}{100} = \frac{118}{25}$$

$$\frac{6}{10}$$

$$4\frac{72}{100}$$

$$.37 = \frac{37}{100} = \frac{74}{200} = \frac{185}{500}$$

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B. Decimals can be written in expanded form in three ways.

Examples:

②

$$0.32 = 0.3 + 0.02$$

Sum of Decimals in Standard Notation

③

$$0.32 = (3 * 0.1) + (2 * 0.01)$$

Sum of Multiplication Expressions (Decimals)

④

$$0.32 = (3 * \frac{1}{10}) + (2 * \frac{1}{100})$$

Sum of Multiplication Expressions (Fractions)

C. Decimals can be written as the product of a whole number and a decimal.

Examples:

⑤

$$0.674 = 674 * 0.001$$

$$3.042 = 3,042 * 0.001$$

$$0.32 = 32 * 0.01$$

Use all of the forms listed in the examples to write five names in each name-collection box.

1

0.89

2

4.203

# Decimals and Zero

## Lesson 3-1

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.3700000

- 1 The tables show the expanded form of three whole numbers and three decimal numbers.

**Whole Numbers In Expanded Form**

Whole Number	Expanded Form as Sum of Multiplication Expressions
37	$(3 * 10) + (7 * 1)$
370	$(3 * 100) + (7 * 10)$
3,700	$(3 * 1,000) + (7 * 100)$

**Decimals In Expanded Form**

Decimal	Expanded Form as Sum of Multiplication Expressions
0.37	$(3 * \frac{1}{10}) + (7 * \frac{1}{100})$
0.370	$(3 * \frac{1}{10}) + (7 * \frac{1}{100})$
0.3700	$(3 * \frac{1}{10}) + (7 * \frac{1}{100})$

- a. List at least two similarities between the tables.

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- b. List at least two differences between the tables.

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- 2 a. Show or explain how you know that the whole numbers in the table are NOT equivalent.

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- b. Show or explain how you know that the decimals in the table are equivalent.

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- 3 Circle the numbers that are equivalent within each row.

a. 3

3.00

30

300

3.0

b. 0.25

0.025

0.250

2.50

0.2500

c. 1.2

1.02

1.20

1.200

10.2

# Reasoning about Measurements

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- 1 What measurement is reasonable for the length of a small paper clip? Circle all that apply.  
3.2 cm      0.32 m      32 mm      0.032 m      3.2 mm
- 2 What measurement is reasonable for the length of a drinking straw? Circle all that apply.  
19.7 mm      1.97 mm      19.7 cm      19.7 m      1.97 cm
- 3 What measurement is reasonable for the length of a school basketball court? Circle all that apply.  
22.56 m      2,256 cm      22.56 cm      0.2256 km      0.02256 km
- 4 List two equivalent measurements in Problem 1 and explain how you know they are equivalent.

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- 5 List two equivalent measurements in Problem 3 and explain how you know they are equivalent.

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1 Divide.

a.  $406 \div 14 =$  \_\_\_\_\_

b.  $39 \overline{)3,597}$

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149-150

2 Tamika earns \$500 for 40 hours of work. At her old job, she earned \$11.75 per hour. Fill in the ratio/rate table to figure out whether she earns more or less now.

Hours	40		
Earnings	\$500		

What does she earn per hour at her new job? \_\_\_\_\_

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43-44

3 Find the least common multiple.

a. LCM (10, 55) = \_\_\_\_\_

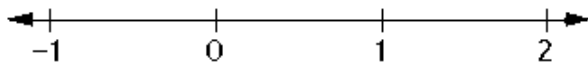
b. LCM (25, 65) = \_\_\_\_\_

c. LCM (6, 15, 40) = \_\_\_\_\_

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4 Plot and label these numbers on the number line:

A:  $\frac{1}{4}$       B:  $-\frac{1}{2}$       C:  $-\frac{3}{3}$       D:  $\frac{8}{6}$



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5 **Writing/Reasoning** Explain how you can check whether your answer to Problem 1b makes sense.