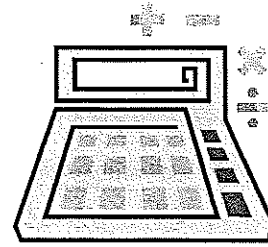


# Test on Friday, Mar. 15<sup>th</sup>

## Parents Guide to Decimals



### Vocabulary:

Decimal

Fraction

Tenth

Hundredth

Thousandth

Equivalent

### Essential Questions:

- How is the relationship between a fraction and its equivalent decimal shown?
- What is the name and value of each digit from the thousandths place to the millions place?
- How is a number read and written to include the thousandths place?
- How are decimals rounded to the nearest tenth or hundredth place?
- What is the relationship between fractions and decimals?
- How are decimals added?
- How are decimals subtracted?

### Important Concepts to Know:

#### **Decimals and Fractions**

- Decimals and fractions represent the same relationships; however they are presented in two different formats. Decimal numbers are another way of writing fractions. The base-ten models help students concretely relate fractions to decimals, e.g., 10 x 10 grids, meter sticks, number lines, decimal squares, and money.

#### **Using Base Ten Blocks to Show Decimals**

- The structure of the base-ten number system is based upon a simple pattern of tens, where each place is ten times the value of the place to its right. This is known as a ten-to-one place value relationship.

#### **Reading Decimals**

- A decimal point separates the whole number places from the places less than one. Place values extend infinitely in two directions from a decimal point. A number containing a decimal point is called a decimal number or simply a decimal.

- To read decimals: Read the whole number to the left of the decimal point (if there is one). Read the decimal point as “and”. Read the digits to the right of the decimal point just as you would read a whole number. Say the name of the place value of the digit in the smallest place.

### **Writing Decimals**

- Decimals may be written in a variety of forms:  
Standard: 26.537  
Written: twenty-six and five hundred thirty-seven thousandths  
Expanded:  $(2 \times 10) + (6 \times 1) + (5 \times 0.1) + (3 \times 0.01) + (7 \times 0.001)$  or  $20 + 6 + 0.5 + 0.03 + 0.007$ .

### **Rounding Decimals**

- The procedure for rounding decimal numbers is similar to the procedure for rounding whole numbers. To round decimal numbers to the nearest tenth and hundredth: Look one place to the right of the digit to which you wish to round. If that digit is 5 or more, add 1 to the digit in the rounding place. If the digit is less than 5, do not change the number in the rounding place and drop the digits to the right of the place you are rounding to.
- Another strategy for rounding decimal number utilizes a number line by locating a decimal between two numbers. For example, 18.83 is closer to 18.8 than 18.9.

### **Addition and Subtraction of Decimals**

- For decimal computation, the same ideas developed for whole number computation may be used and these ideas may be applied to decimal place values, giving attention to the placement of the decimal point in the solution.
- Decimals and fractions may be related by using models such as 10 by 10 grids, decimal squares, and money.

- **Relating fractions and decimals** : Decimals are represented as tenths, hundredths, and thousandths. They can also be written as a fraction.

$$0.2 = \frac{2}{10}$$

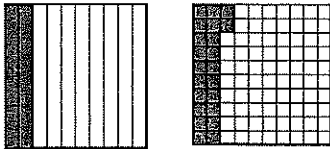
$$0.34 = \frac{34}{100}$$

$$0.984 = \frac{984}{1000}$$

$$7.89 = 7\frac{89}{100}$$

### Sample Questions

1. Which statement correctly compares the below pictures?



- A  $0.2 > 0.22$   
 B  $0.22 < 0.2$   
 C  $0.2 < 0.22$   
 D  $0.2 = 0.22$

2. Which decimal is equal to  $\frac{5}{10}$ ?

- A 0.5  
 B 0.05  
 C 0.005  
 D 5.10

3. Which set of decimals is ordered correctly from *least* to *greatest*?

- A 0.3, 0.09, 0.55, 0.189  
 B 0.09, 0.189, 0.3, 0.55  
 C 0.55, 0.09, 0.3, 0.189  
 D 0.3, 0.55, 0.09, 0.189

4. Which statement below is true?

- A  $25.34 > 25.6$   
 B  $25.34 < 25.021$   
 C  $25.34 < 25.314$   
 D  $25.34 > 25.334$

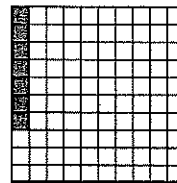
5. When rounded to the nearest tenth, which of the decimal numbers below rounds to 546.7?

- A 546.772  
 B 546.64  
 C 546.681  
 D 546.75

6. What is the correct way to read 0.067?

- A sixty-seven  
 B sixty-seven hundredths  
 C sixty-seven thousand  
 D sixty-seven thousandths

7. What decimal is represented by the picture below?



- A 0.7  
 B 0.07  
 C 0.007  
 D 7

8. Which place is the 6 in the number 0.869?

- A ones  
 B thousandths  
 C tenths  
 D hundredths

9. How is 8.45 written in words?

- A eight and forty-five hundreds  
 B eight thousand forty-five  
 C eight and forty-five hundredths  
 D eight and forty-five

10. Which sign belongs in the circle?

$$67.8 \bigcirc 6.78$$

- A =  
 B <  
 C >

- Finding equivalent fractions, using manipulative models such as fraction strips, number lines, fraction circles, Cuisenaire rods, pattern blocks, unit cubes, base-ten blocks, tangrams, or graph paper.
- Finding a common denominator by finding the least common multiple (LCM) of both denominators and then rewriting each fraction as an equivalent fraction, using the LCM as the denominator.
- Once you are able to compare fractions, you are all set to put them in order, either from least to greatest or greatest to least. Remember to look for common numerators or denominators to help you to put them in order.

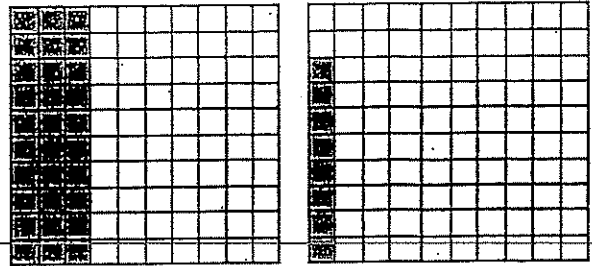
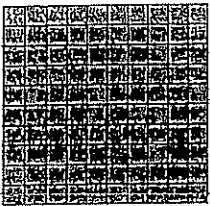
## imals Practice Test

For numbers 1-35 read the problem carefully and choose the best answer.

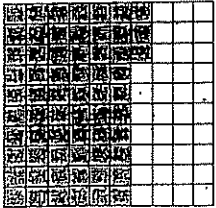
Choose the decimal which shows how much is shaded.

This figure is shaded to represent the number 1.

(2)



Which of the following numbers is represented by the shaded part of the figure below?

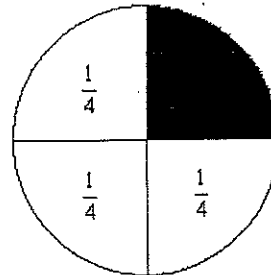


- A 38.0
- B 3.8
- C 0.38
- D 0.038

- A 63
- B 6.3
- C 0.63
- D 0.063

Which decimal has the same value as the shaded part of the circle?

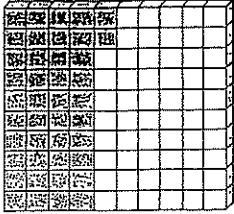
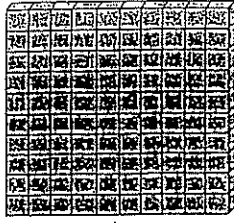
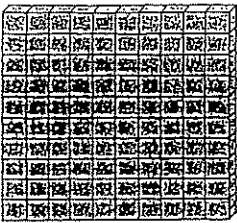
(3)



- A 0.25
- B 0.30
- C 0.50
- D 0.75

What number does the model shown below represent?

(Let  $\square = 0.01$ )



- A 2.42
- B 2.042
- C 200.42
- D 242

What is 30.84 rounded to the nearest whole number?

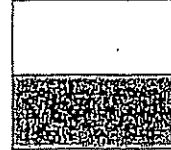
7

- A 30
- B 31
- C 38
- D 39

What part of the shape is shaded?

9

- A 0.1
- B 0.5
- C 1.0
- D 5.0



Round 0.805 to the tenth's place.

9

- A 0.8
- B 0.9
- C 0.90
- D 0.91

Round 0.420 to the hundredth's place.

10

- A 0.42
- B 0.429
- C 0.430
- D 0.43

The weight of a famous emerald is 13.14 carats. How much is this rounded to the nearest whole number?

- A 12 carats
- B 13 carats
- C 14 carats
- D 15 carats

Laurie swam the length of a swimming pool in 4.758 seconds. What is her time rounded to the nearest hundredth?

- A 4.75
- B 4.76
- C 4.78
- D 4.8

Which of the following is a *true* statement?

11

- A  $4.707 = 4.770$
- B  $6.412 > 6.421$
- C  $3.8 < 3.799$
- D  $0.7 = 0.700$

Go on to next page

MA.Fractions and Decimals.0809

Solve:  $\frac{2}{8} + \frac{1}{8} =$

- A  $\frac{1}{8}$
- B  $\frac{3}{16}$
- C  $\frac{3}{8}$
- D  $\frac{1}{16}$

Solve:  $0.473 - 0.024 =$

- A 0.447
- B 0.449
- C 0.459
- D 0.497

Solve:  $6.012 + 3.12 =$

- A 6.324
- B 9.0132
- C 9.024
- D 9.132

Andy ate  $\frac{7}{12}$  of his candy bar on Monday and

$\frac{2}{12}$  of his candy bar on Tuesday. How much of his candy bar was left?



- A  $\frac{2}{12}$
- B  $\frac{3}{12}$
- C  $\frac{5}{12}$
- D  $\frac{9}{12}$

Solve:  $\frac{5}{6} - \frac{1}{6} =$

- A  $\frac{4}{6}$
- B  $\frac{6}{12}$
- C  $\frac{4}{0}$
- D  $\frac{6}{6}$

Solve:  $\begin{array}{r} 7.61 \\ + 10.42 \\ \hline \end{array}$

- A 17.03
- B 17.13
- C 18.03
- D 18.3

Solve:  $0.873 - 0.02 =$

- A 0.893
- B 0.875
- C 0.871
- D 0.853

Evan finished  $\frac{1}{5}$  of his project before lunch.

Amy finished  $\frac{1}{2}$  of her project. How much more did Amy finish?

- A  $\frac{1}{3}$
- B  $\frac{3}{10}$
- C  $\frac{2}{7}$
- D  $\frac{2}{10}$

1.MA.Fractions and Decimals.0809

22) Eddie mowed  $\frac{1}{2}$  of his yard. Al mowed  $\frac{1}{3}$  of his yard. How much more did Eddie mow?

- A  $\frac{1}{6}$
- B  $\frac{1}{3}$
- C  $\frac{2}{6}$
- D  $\frac{2}{5}$

Use this table to answer numbers 137-138.

26) The table below shows the speed of a skier during 3 trials of this event during the Olympics.

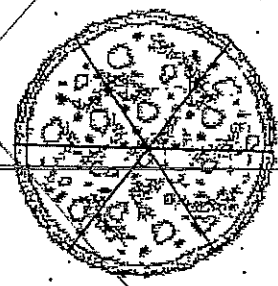
Trial	Speed
1	2.264 min.
2	3.942 min.
3	2.428 min.

What is the total speed for trial 1 and 2?

- A 8.634 min.
- B 6.206 min.
- C 5.105 min.
- D 1.678 min.

27) Tony ate  $\frac{1}{3}$  of a pizza. Marie ate  $\frac{3}{6}$  of the same pizza. How much of the pizza did Tony and Marie eat in all?

- A  $\frac{4}{9}$
- B  $\frac{6}{12}$
- C  $\frac{4}{6}$
- D  $\frac{5}{6}$



27) How much faster did she ski in trial #1 than in trial #2?

- A 6.206 min.
- B 1.688 min.
- C 1.678 min.
- D 1.414 min.

28) John bought a video for \$15.93. He paid with a \$20 bill. How much change did he receive?

- A \$35.93
- B \$5.93
- C \$4.07
- D \$4.03

29) Jamie paid \$9.26 for a comic book and \$2.37 for a large soda. What is the total amount he paid?

- A \$6.89
- B \$6.99
- C \$11.53
- D \$11.63

Answer Key

- |                   |       |         |
|-------------------|-------|---------|
| 1. C              | 2. C  | 3. 0.25 |
| 4. A              | 5. B  | 6. B    |
| 7. B              | 8. B  | 9. A    |
| 10. A             | 11. D | 12. 0.8 |
| 13. $\frac{1}{2}$ | 14. C | 15. A   |
| 16. C             | 17. D | 18. B   |
| 19. D             | 20. B | 21. B   |
| 22. A             | 23. D | 24. C   |
| 25. D             | 26. B | 27. D   |

