Name _____ Date _____ Class _____

LESSON 4

Number Theory and Fractions

Review for Mastery: Decimals and Fractions

You can write decimals as fractions or mixed numbers. A place value chart will help you read the decimal. Remember the decimal point is read as the word "and."

To write 0.47 as a fraction, first think about the decimal in words.

Ones	Tenths	Hundredths	Thousandths	Ten Thousandths
0 .	4	7		

0.47 is read "forty-seven hundredths." The place value of the decimal tells you the denominator is 100.

$0.47 = \frac{47}{100}$

To write 8.3 as a mixed number, first think about the decimal in words.

Ones	Tenths	Hundredths	Thousandths	Ten Thousandths
8 .	3			

8.3 is read "eight and three tenths." The place value of the decimal tells you the denominator is 10. The decimal point is read as the word "and."

$8.3 = 8\frac{3}{10}$

Write each decimal as a fraction or mixed number.

1. 0.61 _____
2. 3.43 _____
3. 0.009 _____
4. 4.7 _____
5. 1.5 _____
6. 0.13 _____
7. 5.002 _____
8. 0.021 _____

Name _____ Date _____ Class _____

LESSON 4

Number Theory and Fractions

Review for Mastery: Decimals and Fractions (continued)

Fractions and mixed numbers can be written as decimals.

To write $\frac{1}{4}$ as a decimal, first think about the expression in words.

$\frac{1}{4}$ means "1 divided by 4."

Then do the division.

$$4\overline{)1.00}\quad 0.25$$
$$-8$$
$$20$$
$$-20$$
$$0$$

$\frac{1}{4} = 0.25$

0.25 is a terminating decimal because it has an end

A number that contains a whole number and a fraction is called a mixed number. $2\frac{1}{3}$ is an example of a mixed number. To write $2\frac{1}{3}$ as a decimal, first think about the expression in words.

$2\frac{1}{3}$ means "2 and 1 divided by 3." Keep 2 as the whole number.

Then do the division.

$$3\overline{)1.00}\quad 0.33$$
$$-9$$
$$10$$
$$-09$$
$$1$$

So, $2\frac{1}{3} = 2.\overline{3}$.

$1 \div 3 = 0.33\ldots$, or $0.\overline{3}$.

$0.\overline{3}$ is a repeating decimal because it does not end.

Write each fraction or mixed number as a decimal.

9. $\frac{3}{5}$ _____

10. $3\frac{3}{4}$ _____

11. $\frac{2}{3}$ _____

12. $1\frac{2}{9}$ _____

13. $\frac{1}{6}$ _____

14. $2\frac{1}{8}$ _____

15. $\frac{5}{6}$ _____

16. $8\frac{1}{9}$ _____

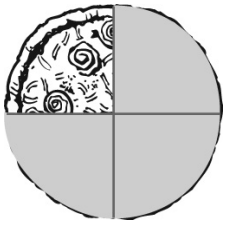
7. $1.\overline{8}$
8. $0.08\overline{3}$
9. 2.07
10. 0.062
11. 0.85
12. $0.\overline{45}$
13. $\frac{4}{5}$, 0.83, $\frac{7}{8}$
14. $\frac{9}{11}$, $\frac{5}{6}$, 0.9
15. $4.\overline{2}$, $4\frac{3}{11}$, $4\frac{2}{3}$
16. $\frac{1}{3}$, $\frac{3}{10}$, $\frac{27}{100}$
17. $\frac{3}{4}$, 0.71, $\frac{8}{12}$
18. 0.99, $\frac{97}{100}$, $\frac{19}{20}$
19. He has enough flour, but not enough sugar.
20. Katie ran the most, and Tameeka ran the least.

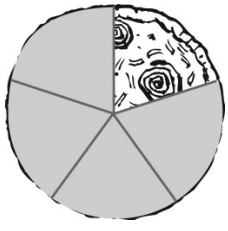
Review for Mastery

1. $\frac{61}{100}$
2. $3\frac{43}{100}$
3. $\frac{9}{1{,}000}$
4. $4\frac{7}{10}$
5. $1\frac{5}{10}$ or $1\frac{1}{2}$
6. $\frac{13}{100}$
7. $5\frac{2}{1{,}000}$ or $5\frac{1}{500}$
8. $\frac{21}{1{,}000}$
9. 0.6
10. 3.75
11. $0.\overline{6}$
12. $1.\overline{2}$
13. $0.1\overline{6}$
14. 2.125
15. $0.8\overline{3}$
16. $8.\overline{1}$

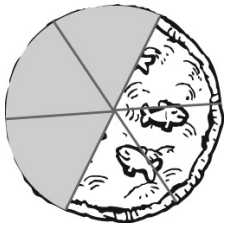
Challenge

1. $0.75 < 0.8$

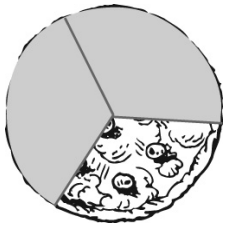


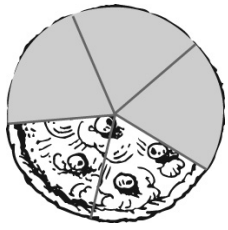


2. $0.5 = 0.5$



3. $0.\overline{6} > 0.6$





4. $0.2 < 0.\overline{3}$

Problem Solving

1. 1.25 amperes
2. blender
3. microwave oven; 12.5 amperes
4. C
5. G
6. D
7. F

Reading Strategies

1. repeating decimal; 6
2. terminating decimal
3. repeating decimal; 09
4. repeating decimal; 2
5. terminating decimal
6. repeating decimal; 5
7. terminating decimal
8. repeating decimal; 9