4-7 Writing Decimals as Fractions - Practice and Problem Solving

Write each decimal as a fraction in simplest form.

$$0.7 = \frac{7}{10}$$

$$0.5 = \frac{5}{10}$$

$$= \frac{1}{2}$$
 Divide by the GCF, 5.

$$0.21 = \frac{21}{100}$$

$$0.82 = \frac{82}{100}$$

= $\frac{41}{50}$ Divide by the GCF, 2.

$$0.425 = \frac{425}{1,000}$$

= $\frac{17}{40}$ Divide by the GCF, 25.

21. 0.004

$$0.004 = \frac{4}{1,000}$$

$$= \frac{1}{250}$$
 Divide by the GCF, 4.

23. DISTANCE Evita lives 0.85 mile from her school. Write this distance as a fraction in simplest form.

$$0.85 = \frac{85}{100}$$

$$= \frac{17}{20}$$
 Divide by the GCF, 5.

Write each decimal as a mixed number in simplest form.

25. 12.1

$$12.1 = 12\frac{1}{10}$$

27. 17.03

$$17.03 = 17 \frac{3}{100}$$

29. 42.96

$$42.96 = 42\frac{96}{100}$$

= $42\frac{24}{25}$ Divide by the GCF, 4.

31. 50.605

$$50.605 = 50 \frac{605}{1,000}$$

= $50 \frac{121}{200}$ Divide by the GCF, 5.

SANDWICHES Refer to the table that shows the ingredients in an Italian sandwich at Johnny's Deli.

Ingredient	Amount (lb)
meat	0.35
vegetables	0.15
secret sauce	0.05
bread	0.05

33. How much more meat is in the sandwich than vegetables? Write the amount as a fraction in simplest form.

meat – vegetables =
$$\frac{7}{20} - \frac{3}{20}$$

= $\frac{4}{20} = \frac{1}{5}$

There is $\frac{1}{5}$ of a pound more meat than vegetables.

35. LADYBUGS The average length of a ladybug can range from 0.08 to 0.4 inch. Find two lengths that are within the given span. Write them as fractions in simplest form.

Answers will vary but should fall between 0.08 and 0.4. Sample answer:

$$0.08 = \frac{8}{100}$$
 Divide by the GCF, 4.

$$\frac{2}{25}$$

and
$$0.4 = \frac{4}{10}$$
 Divide by the GCF, 2.

$$\frac{2}{5}$$

Two lengths of ladybugs are $\frac{2}{25}$ inch

and
$$\frac{2}{5}$$
 inch.

37. CHALLENGE Decide whether the following statement is *sometimes*, *always*, or *never* true. Explain your reasoning.

Any decimal that ends with a digit in the thousandths place can be written as a fraction with a denominator that is divisible by both 2 and 5.

Always; a decimal that ends in the thousandths place can have a denominator of 1,000. Since 1,000 is divisible by 2 and 5, the denominator of every such terminating decimal is divisible by 2 and 5.

39. WRITING IN MATH Explain how to express 0.36 as a fraction.

Sample answer: Since 6 is in the hundredths place, write 0.36 as a fraction with a denominator of 100.

So,
$$0.36 = \frac{36}{100}$$
. Then simplify by using the GCF, 4: $\frac{36}{100} = \frac{9}{25}$. Therefore, $0.36 = \frac{9}{25}$.

41. Which of the following statements is *not* true?

F
$$0.6 = \frac{3}{5}$$

G
$$0.125 = \frac{1}{8}$$

H
$$2.015 = 2\frac{1}{200}$$

J
$$10.38 = 10\frac{19}{50}$$

Choice F:
$$0.6 = \frac{6}{10} = \frac{3}{5}$$

Choice G:
$$0.125 = 1 \frac{25}{1000} = \frac{1}{8}$$

Choice H:
$$2.015 = 2\frac{15}{1000} = 2\frac{3}{200}$$

Choice J:
$$10.38 = 10 \frac{38}{100} = 10 \frac{19}{50}$$

Choice H is not true since it states that $2.015 = 2\frac{1}{100}$. It should state $2.015 = 2\frac{3}{200}$.

The correct answer is H.

Replace each \bullet with <, >, or = to make a true sentence.

43.
$$7\frac{5}{9} \bullet 7\frac{6}{11}$$

The whole numbers are the same, so compare $\frac{5}{9}$ and $\frac{6}{11}$.

The LCD is 99.



Since
$$55 > 54, \frac{55}{99} > \frac{54}{99}$$
. So $\frac{5}{9} > \frac{6}{11}$.

So,
$$77\frac{5}{9} > 7\frac{6}{11}$$
.

45.
$$8\frac{4}{15} \bullet 9\frac{8}{27}$$

Since 8 < 9, there is no need to compare the fractions using the LCD.

So,
$$8\frac{4}{15} < 9\frac{8}{27}$$
.

47. SWEATERS A store sells sweaters in 5 different styles and 4 different colors. How many combinations of style and color are available?

Use 12345 for the different styles of sweaters and ABCD for the four different colors.

There are 20 different combinations.

PREREQUISITE SKILL Divide.

$$72 \div 4 = 18$$

$$84 \div 4 = 21$$