Write each decimal as a fraction or mixed number in simplest form. (Examples 1–4)

1. 0.4 = $\frac{2}{5}$

Show your work.

2. 0.64 = $\frac{16}{25}$

3. 2.75 = $2\frac{3}{4}$

$2\frac{75}{100}$ ÷25 ÷25

Write each fraction or mixed number as a decimal. (Examples 5 and 6)

4. $\frac{27}{75}$ = 0.36

13 .36
75 | 27.00
−225
450
−450
0

5. $\frac{7}{2}$ = 3.5

$3\frac{1}{2}$

3.5
2 | 7.0
−6
10

6. $3\frac{1}{5}$ = 3.2

$23\frac{75}{100}$ ÷2 ÷2

7. Mr. Ravenhead's car averages 23.75 miles per gallon of gasoline. Express this amount as a mixed number in simplest form. (Example 4) $23\frac{3}{4}$ mpg

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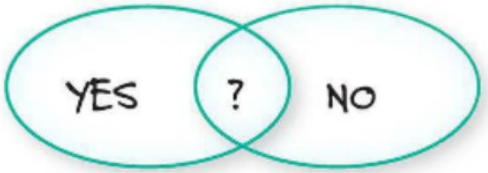
8. STEM The Siberian tiger can grow up to $10\frac{4}{5}$ feet long. Express this length as a decimal. (Example 6) 10.8 ft

9. **Building on the Essential Question** What is the relationship between fractions and decimals?

Sample answer: Fractions can be written as decimals and decimals can be written as fractions. Both fractions and decimals can be used to represent part of a whole.

Rate Yourself!

Are you ready to move on? Shade the section that applies



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Tutor

Independent Practice

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Write each decimal as a fraction in simplest form. (Examples 1–3)

1. $0.5 = \frac{1}{2}$

2. $0.7 = \frac{7}{10}$

3. $0.33 = \frac{33}{100}$

4. $0.875 = \frac{7}{8}$

Show your work.

Write each fraction or mixed number as a decimal. (Examples 5 and 6)

5. $\frac{77}{200} = 0.385$

6. $\frac{1}{20} = 0.05$

7. $\frac{12}{75} = 0.16$

8. $8\frac{21}{40} = 8.525$

9. STEM Mercury orbits the Sun in 87^{24}

10. STEM Last week, a share of stock g … of 1.64 points. Express this gain a…

9 **STEM** Mercury orbits the Sun in $87\frac{24}{25}$ Earth days. Venus orbits the Sun in $224\frac{7}{10}$ Earth days, and Mars orbits the Sun in $686\frac{49}{50}$ days. Write each mixed number as a decimal. (Example 6)

Mercury: 87.96; Venus: 224.7; Mars: 686.98

10. **STEM** Last week, a share of stock gained a total of 1.64 points. Express this gain as a mixed number in simplest form. (Example 4)

$1\frac{16}{25}$

11. **MP** **Use Math Tools** The table shows the ingredients in an Italian sandwich.

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

a. What fraction of a pound is each ingredient?

meat: $\frac{7}{20}$; vegetables: $\frac{3}{20}$; sauce: $\frac{1}{20}$; bread: $\frac{1}{20}$

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

$\frac{1}{5}$ lb

12. Paloma can run the 100-meter dash in $16\frac{1}{5}$ seconds. Savannah's best time is 19.8 seconds. How much faster is Paloma than Savannah in the 100-meter dash? **3.6 s**

13 **STEM** 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. **Sample answer: $\frac{1}{5}$ in. and $\frac{7}{20}$ in.**

H.O.T. Problems Higher Order Thinking

14. MP **Find the Error** Mei is writing 4.28 as a mixed number. Find her mistake and correct it.

Mei wrote the wrong place value in the denominator, so her fraction was incorrect; $4.28 = 4\frac{28}{100}$ or $4\frac{7}{25}$

5 20

H.O.T. Problems Higher Order Thinking

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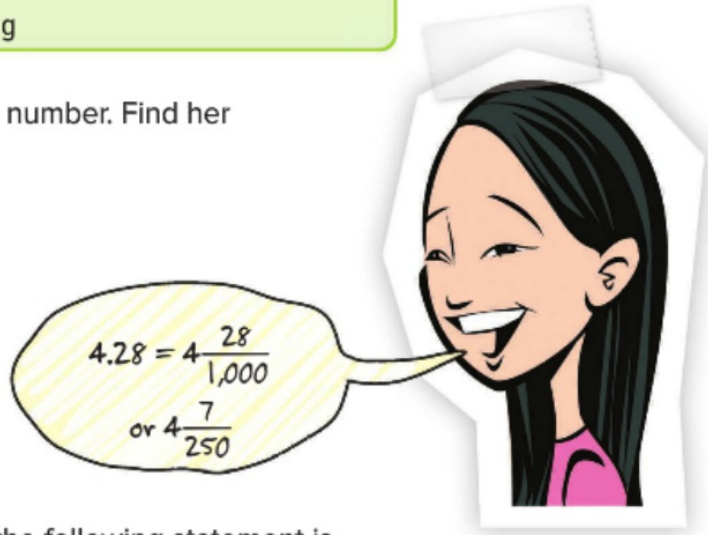
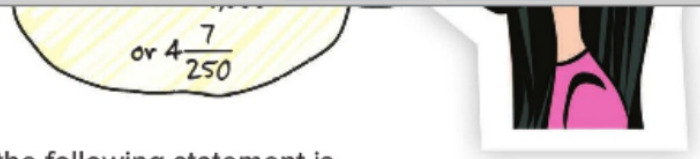


15. MP **Persevere with Problems** Decide whether the following statement is *always*, *sometimes*, or *never* true. Explain your reasoning.

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.

16. MP **Reason Inductively** Write a fraction with a decimal value between $\frac{1}{2}$ and $\frac{3}{4}$. Write both the fraction and th



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16. MP **Reason Inductively** Write a fraction with a decimal value between $\frac{1}{2}$ and $\frac{3}{4}$. Write both the fraction and the equivalent decimal.

Sample answer: $\frac{7}{12} = 0.58\overline{3}$

17. MP **Use Math Tools** Evelyn is making a costume for her school play. She needs to buy 2 yards of cotton fabric at a cost of \$3.49 per yard, and $\frac{1}{2}$ yard of satin fabric at \$5.98 per yard. She has \$15 to spend on the fabric. Use mental math to determine if she will have enough money. Explain.

yes; Sample answer: the fabric costs about \$10, so \$15 is enough.

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