Writing Decimals as Fractions with Denominators of 10 and 100

4.NF.6   Use decimal notation for fractions with denominators of 10 or 100.
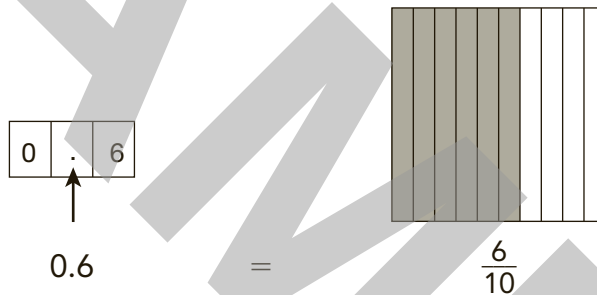
Understand the Standards

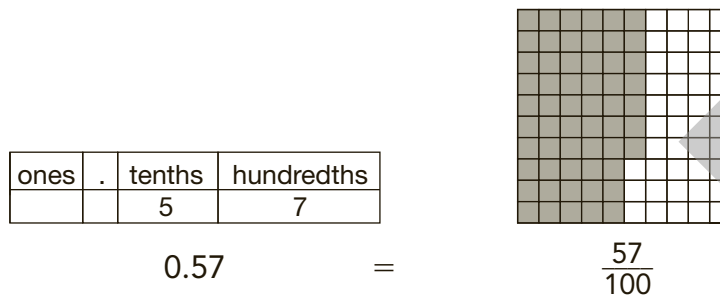Colin uses 0.6 of his tennis balls for practice. What fraction of his tennis balls is this?

Both **decimals** and **fractions** name parts of a whole. In a decimal, place value tells you into how many parts a whole is divided. In a fraction, the denominator tells you into how many parts a whole is divided.

Words to Know

decimal

fraction

0	.	6

0.6   = $\frac{6}{10}$

The first digit to the right of the decimal point represents tenths.
The second digit to the right of the decimal point represents hundredths.

ones	.	tenths	hundredths
		5	7

0.57   = $\frac{57}{100}$

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Guided Instruction

To write decimals as fractions with denominators of 10 or 100, follow these steps.

Step 1 Read the decimal.

0.43 is forty-three hundredths because 4 is in the tenths place and 3 is in the hundredths place.

Step 2 Write what you say as a fraction.

forty-three hundredths $= \dfrac{43}{100}$

Follow these steps to write fractions with denominators of 10 or 100 as decimals.

Step 1 Read the fraction.

Step 2 Write what you say as a decimal. Remember that the first place to the right of the decimal point is the tenths place and the second place to the right of the decimal is the hundredths place.

$\dfrac{3}{10}$ is three-tenths

three tenths $= 0.3$ because 3 is in the tenths place.

On Your Own

Write each decimal as a fraction with the denominator shown.

1. $0.5 = \dfrac{}{10}$

2. $0.7 = \dfrac{}{10}$

3. $0.6 = \dfrac{}{10}$

4. $0.34 = \dfrac{}{100}$

5. $0.18 = \dfrac{}{100}$

6. $0.74 = \dfrac{}{100}$

Write each fraction as a decimal.

7. $\dfrac{8}{10} = 0.$

8. $\dfrac{2}{10} = 0.$

9. $\dfrac{9}{10} = 0.$

10. $\dfrac{58}{100} = 0.$

11. $\dfrac{27}{100} = 0.$

12. $\dfrac{86}{100} = 0.$

Write each decimal as a fraction.

13. 0.75 = _____

14. 0.3 = _____

15. 0.62 = _____

16. 0.38 = _____

17. 0.04 = _____

18. 0.66 = _____

Write each fraction as a decimal.

19. $\frac{1}{10}$ = _____

20. $\frac{84}{100}$ = _____

21. $\frac{3}{10}$ = _____

22. $\frac{25}{100}$ = _____

23. $\frac{8}{100}$ = _____

24. $\frac{19}{100}$ = _____

25. A piece of string is $\frac{54}{100}$ meters long. Write this measurement as a decimal. _____

26. Justin's foot is $\frac{94}{100}$ of a foot long. Write this measurement as a decimal. _____

27. Locate 0.34 on the number line.

0.3   0.4

Answer the questions. Share your ideas with a classmate.

28. Chan Soon planted 65 of the 100 carrot seeds she has in her garden. Write a decimal to show how much of her garden she has planted. Explain.

_____

_____

29. Chandra wrote 0.08 as $\frac{8}{10}$. Is this correct? Explain why or why not.

_____

_____

_____

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Answer the questions.

30. Which fraction is equivalent to 0.08?

    A. $\frac{1}{8}$

    B. $\frac{18}{100}$

    C. $\frac{8}{10}$

    D. $\frac{8}{100}$

31. Isabella measured the length of her desk. It is $\frac{68}{100}$ of a meter long. Which shows this fraction written as a decimal?

    A.   68

    B.   6.8

    C.   0.68

    D.   0.068

32. Elizabeth painted $\frac{7}{10}$ of her wall. Write the amount of her wall she has painted as a decimal.

_____

Elevate **33.** Josie has a page in her coin collection book that holds 100 pennies. She has 82 pennies on the page. How much of the page is left blank for Josie to fill in the future? Write your answer in both fraction and decimal form and explain how you solved the problem.

_____

_____

_____

_____

Elevate **34.** Simon has a bag of marbles. In the bag, 0.07 of the marbles are white. What fraction of the marbles are not white? Explain how you solved the problem.

_____

_____

_____

_____