

# Decimal Notation for Fractions

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

A **decimal** is just another way to write a fraction with a denominator of 10 or 100. The first place after the decimal point is the **tenths** place, and the second place is the **hundredths** place. So  $\frac{3}{10} = 0.3$  (three tenths) and  $\frac{7}{100} = 0.07$  (seven hundredths). When a fraction has a denominator of 100, the numerator fills both decimal places:  $\frac{23}{100} = 0.23$ . To go the other way, read the decimal out loud — “forty-seven hundredths” is  $\frac{47}{100}$ . Always remember: **tenths** use one digit, **hundredths** use two.

◇ **Example:** Write  $\frac{9}{100}$  as a decimal, and write 0.6 as a fraction.

⇒ First,  $\frac{9}{100}$  is nine hundredths. Hundredths fill two places after the decimal point, and nine needs a zero in front of it to land in the hundredths spot, so  $\frac{9}{100} = 0.09$ . Next, 0.6 has one digit after the point, so it is six tenths. Reading it as a fraction gives  $\frac{6}{10}$ . Both answers just come from naming the place value carefully.

**Answer:**  $\frac{9}{100} = 0.09$ ,  $0.6 = \frac{6}{10}$

## PRACTICE

Write each fraction as a decimal, or each decimal as a fraction.

- |   |       |                              |       |
|---|-------|------------------------------|-------|
| 1. Write $\frac{3}{10}$ as a decimal    | _____ | 11. Write 0.4 as a fraction  | _____ |
| 2. Write $\frac{7}{100}$ as a decimal   | _____ | 12. Write 0.07 as a fraction | _____ |
| 3. Write $\frac{9}{10}$ as a decimal    | _____ | 13. Write 0.5 as a fraction  | _____ |
| 4. Write $\frac{23}{100}$ as a decimal  | _____ | 14. Write 0.31 as a fraction | _____ |
| 5. Write $\frac{5}{100}$ as a decimal   | _____ | 15. Write 0.6 as a fraction  | _____ |
| 6. Write $\frac{1}{10}$ as a decimal    | _____ | 16. Write 0.09 as a fraction | _____ |
| 7. Write $\frac{60}{100}$ as a decimal  | _____ | 17. Write 0.2 as a fraction  | _____ |
| 8. Write $\frac{47}{100}$ as a decimal  | _____ | 18. Write 0.75 as a fraction | _____ |
| 9. Write $\frac{8}{10}$ as a decimal    | _____ | 19. Write 0.1 as a fraction  | _____ |
| 10. Write $\frac{90}{100}$ as a decimal | _____ | 20. Write 0.88 as a fraction | _____ |

## ◆ Word Problems

21. Carlos says he finished  $\frac{35}{100}$  of his book. Write the part he finished as a decimal. \_\_\_\_\_
22. A ribbon is 0.8 of a meter long. Write that length as a fraction with a denominator of 10. \_\_\_\_\_
23. Nina poured juice into a glass and it filled  $\frac{9}{100}$  of a liter. Write that amount as a decimal. \_\_\_\_\_
24. On a number line, a frog landed on the mark labeled 0.6. What fraction of the way from 0 to 1 is that? \_\_\_\_\_



## Answer Keys

- |   |  |
|---|--|
| <p>1. <input type="text" value="0.3"/></p> <p>2. <input type="text" value="0.07"/></p> <p>3. <input type="text" value="0.9"/></p> <p>4. <input type="text" value="0.23"/></p> <p>5. <input type="text" value="0.05"/></p> <p>6. <input type="text" value="0.1"/></p> <p>7. <input type="text" value="0.60"/></p> <p>8. <input type="text" value="0.47"/></p> <p>9. <input type="text" value="0.8"/></p> <p>10. <input type="text" value="0.90"/></p> <p>11. <input type="text" value="4/10"/></p> <p>12. <input type="text" value="7/100"/></p> | <p>13. <input type="text" value="5/10"/></p> <p>14. <input type="text" value="31/100"/></p> <p>15. <input type="text" value="6/10"/></p> <p>16. <input type="text" value="9/100"/></p> <p>17. <input type="text" value="2/10"/></p> <p>18. <input type="text" value="75/100"/></p> <p>19. <input type="text" value="1/10"/></p> <p>20. <input type="text" value="88/100"/></p> <p>21. <input type="text" value="0.35"/></p> <p>22. <input type="text" value="8/10 of a meter"/></p> <p>23. <input type="text" value="0.09 of a liter"/></p> <p>24. <input type="text" value="6/10"/></p> |
|---|--|

### Step-by-Step Explanations

- |   |   |
|---|---|
| <p>1. Three tenths fills one place after the point, so <math>\frac{3}{10} = 0.3</math>.</p> <p>2. Seven hundredths needs two places, so put a zero in the tenths spot: 0.07.</p> <p>3. Nine tenths is one digit after the point: <math>\frac{9}{10} = 0.9</math>.</p> <p>4. Twenty-three hundredths fills both decimal places: 0.23.</p> <p>5. Five hundredths needs a zero in the tenths place: 0.05.</p> <p>6. One tenth is written with one digit after the point: 0.1.</p> <p>7. Sixty hundredths fills both places: 0.60, which is also 0.6.</p> <p>8. Forty-seven hundredths goes right into the two decimal places: 0.47.</p> <p>9. Eight tenths is one digit after the point: <math>\frac{8}{10} = 0.8</math>.</p> <p>10. Ninety hundredths fills both places: 0.90, the same as 0.9.</p> <p>11. One digit after the point means tenths, so <math>0.4 = \frac{4}{10}</math>.</p> <p>12. Two digits after the point means hundredths: <math>0.07 = \frac{7}{100}</math>.</p> | <p>13. 0.5 is five tenths, so it is <math>\frac{5}{10}</math>.</p> <p>14. Two decimal places means hundredths: <math>0.31 = \frac{31}{100}</math>.</p> <p>15. 0.6 is six tenths, which is <math>\frac{6}{10}</math>.</p> <p>16. 0.09 is nine hundredths: <math>\frac{9}{100}</math>.</p> <p>17. One digit after the point means tenths, so <math>0.2 = \frac{2}{10}</math>.</p> <p>18. 0.75 has two decimal places, so it is seventy-five hundredths: <math>\frac{75}{100}</math>.</p> <p>19. 0.1 is one tenth, written <math>\frac{1}{10}</math>.</p> <p>20. Two decimal places means hundredths: <math>0.88 = \frac{88}{100}</math>.</p> <p>21. Thirty-five hundredths fills both decimal places, so <math>\frac{35}{100} = 0.35</math> of the book.</p> <p>22. 0.8 has one digit after the decimal point, so it is eight tenths: <math>\frac{8}{10}</math> of a meter.</p> <p>23. Nine hundredths needs two decimal places, with a zero in the tenths spot, so <math>\frac{9}{100} = 0.09</math>.</p> <p>24. 0.6 is six tenths, so the frog is <math>\frac{6}{10}</math> of the way from 0 to 1.</p> |
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