

Fractions to Decimals

100 Questions • From Basics to Repeating Decimals

Name: _____

Date: _____

Part 1 • Place Value Fractions (Questions 1–30)

The Big Idea

A decimal IS a fraction. The position after the decimal point tells you the denominator:

- 1 place after the decimal point → tenths (denominator 10)
- 2 places after the decimal point → hundredths (denominator 100)
- 3 places after the decimal point → thousandths (denominator 1000)

Examples: $3/10 = 0.3$ $47/100 = 0.47$ $125/1000 = 0.125$

Watch out: $3/100 = 0.03$ (you need a 0 in the tenths place!) and $7/1000 = 0.007$

Tenths (1–10)

1. $3/10 =$ _____	2. $7/10 =$ _____	3. $9/10 =$ _____
4. $1/10 =$ _____	5. $5/10 =$ _____	6. $12/10 =$ _____
7. $20/10 =$ _____	8. $25/10 =$ _____	9. $38/10 =$ _____
10. $100/10 =$ _____		

Hundredths (11–20)

11. $47/100 =$ _____	12. $9/100 =$ _____	13. $50/100 =$ _____
14. $99/100 =$ _____	15. $3/100 =$ _____	16. $60/100 =$ _____
17. $25/100 =$ _____	18. $175/100 =$ _____	19. $200/100 =$ _____
20. $7/100 =$ _____		

Thousandths (21-30)

21. $5/1000 =$ _____	22. $17/1000 =$ _____	23. $125/1000 =$ _____
24. $500/1000 =$ _____	25. $999/1000 =$ _____	26. $50/1000 =$ _____
27. $8/1000 =$ _____	28. $1234/1000 =$ _____	29. $2500/1000 =$ _____
30. $30/1000 =$ _____		

Part 2 • Equivalent Fractions (Questions 31-55)

The Big Idea

When the denominator is NOT 10, 100, or 1000, you can usually find an EQUIVALENT fraction with one of those denominators.

Example 1: $1/2 \rightarrow$ multiply both top and bottom by 5 $\rightarrow 5/10 = 0.5$

Example 2: $3/4 \rightarrow$ multiply both top and bottom by 25 $\rightarrow 75/100 = 0.75$

Example 3: $2/5 \rightarrow$ multiply both top and bottom by 2 $\rightarrow 4/10 = 0.4$

Trick: Look for a number to multiply the denominator by so it becomes 10, 100, or 1000.

Halves & Fourths (31-38)

31. $1/2 =$ _____	32. $3/4 =$ _____	33. $1/4 =$ _____
34. $2/2 =$ _____	35. $5/4 =$ _____	36. $9/4 =$ _____
37. $11/2 =$ _____	38. $7/4 =$ _____	

Fifths & Twentieths (39-46)

39. $1/5 =$ _____	40. $2/5 =$ _____	41. $3/5 =$ _____
42. $4/5 =$ _____	43. $1/20 =$ _____	44. $3/20 =$ _____
45. $7/20 =$ _____	46. $17/20 =$ _____	

Twenty-fifths & Fiftieths (47–55)

47. $1/25 =$ _____	48. $7/25 =$ _____	49. $13/25 =$ _____
50. $11/50 =$ _____	51. $27/50 =$ _____	52. $49/50 =$ _____
53. $1/50 =$ _____	54. $3/25 =$ _____	55. $19/25 =$ _____

Part 3 • Long Division (Questions 56–80)

The Big Idea

A fraction is just division: $3/8$ means $3 \div 8$. When you can't find an easy equivalent fraction, just DIVIDE.

Example: $3/8 \rightarrow 3.000 \div 8 = 0.375$

Just add zeros after the decimal point in the dividend and keep dividing until the remainder is 0 (or you spot a pattern!)

Tip: Use the work box under each problem for your long division.

Eighths (56–63)

56. $1/8 =$ _____ <i>Work:</i>	57. $3/8 =$ _____ <i>Work:</i>
58. $5/8 =$ _____ <i>Work:</i>	59. $7/8 =$ _____ <i>Work:</i>
60. $9/8 =$ _____ <i>Work:</i>	61. $11/8 =$ _____ <i>Work:</i>
62. $13/8 =$ _____ <i>Work:</i>	63. $15/8 =$ _____ <i>Work:</i>

Sixteenths & Thirty-seconds (64–71)

64. $1/16 =$ _____ <i>Work:</i>	65. $3/16 =$ _____ <i>Work:</i>
66. $5/16 =$ _____ <i>Work:</i>	67. $7/16 =$ _____ <i>Work:</i>
68. $9/16 =$ _____ <i>Work:</i>	69. $1/32 =$ _____ <i>Work:</i>
70. $5/32 =$ _____ <i>Work:</i>	71. $17/32 =$ _____ <i>Work:</i>

Tricky Denominators (72–80)

Hint: for many of these, you can multiply to get a denominator of 100 or 1000 instead of doing long division. Try both ways and see which feels easier!

72. $1/40 =$ _____ Work:	73. $7/40 =$ _____ Work:
74. $3/80 =$ _____ Work:	75. $1/125 =$ _____ Work:
76. $3/200 =$ _____ Work:	77. $7/250 =$ _____ Work:
78. $9/500 =$ _____ Work:	79. $11/40 =$ _____ Work:
80. $21/40 =$ _____ Work:	

Part 4 • Mixed Numbers & Improper Fractions (Questions 81–90)

The Big Idea

For a MIXED NUMBER like $2 \frac{3}{4}$, the whole-number part stays the same and you just convert the fraction part.

Example: $2 \frac{3}{4} = 2 + \frac{3}{4} = 2 + 0.75 = 2.75$

For an IMPROPER FRACTION like $7/4$, divide top by bottom: $7 \div 4 = 1.75$.

81. $1 \frac{1}{2} =$ _____	82. $2 \frac{3}{4} =$ _____	83. $3 \frac{1}{5} =$ _____
84. $4 \frac{7}{10} =$ _____	85. $5 \frac{3}{8} =$ _____	86. $2 \frac{1}{4} =$ _____
87. $\frac{7}{2} =$ _____	88. $\frac{11}{4} =$ _____	89. $\frac{13}{5} =$ _____
90. $\frac{23}{8} =$ _____		

Part 5 • Repeating Decimals (Questions 91–100)

The Big Idea

Some fractions don't have a nice terminating decimal. They REPEAT forever.

Example: $1/3 = 0.333333...$ (the 3 keeps repeating). We write 0.3 with a bar over the 3, or $0.\overline{3}$...

Example: $1/6 = 0.16666...$ (only the 6 repeats — the 1 is part of the answer once)

Example: $1/7 = 0.142857\ 142857\ 142857...$ (a whole 6-digit block repeats!)

When you do long division and the SAME REMAINDER comes back, you know the pattern is going to repeat.

Find the repeating decimal (91–100). Use "..." to show where it keeps going.

91. $1/3 =$ _____ Work:	92. $2/3 =$ _____ Work:
93. $1/6 =$ _____ Work:	94. $5/6 =$ _____ Work:
95. $1/9 =$ _____ Work:	96. $2/9 =$ _____ Work:
97. $4/9 =$ _____ Work:	98. $1/11 =$ _____ Work:
99. $1/7 =$ _____ Work:	100. $4/7 =$ _____ Work:

100 questions complete! Check your work against the answer key.