

4.NF Expanded Fractions and Decimals

Alignments to Content Standards: 4.NF.C.5 4.NF.C.6

Task

Complete the table.

$43\frac{65}{100}$	$40 + 3 + \frac{6}{10} + \frac{5}{100}$	$40 + 3 + 0.6 + 0.05$	43.65
$21\frac{90}{100}$			
$40\frac{76}{100}$			
$7\frac{82}{100}$			
$18\frac{3}{100}$			

IM Commentary

The purpose of this task is for students to show they understand the connection between fraction and decimal notation by writing the same numbers both ways. Comparing and contrasting the two solutions shown below shows why decimal notation can be confusing. The first solution shows the briefest way to represent each

number, and the second solution makes all the zeros explicit.

Solutions

[Edit this solution](#)

Solution: Suppressing unnecessary zeros

$43\frac{65}{100}$	$40 + 3 + \frac{6}{10} + \frac{5}{100}$	$40 + 3 + 0.6 + 0.05$	43.65
$21\frac{90}{100}$	$20 + 1 + \frac{9}{10}$	$20 + 1 + 0.9$	21.9
$40\frac{76}{100}$	$40 + \frac{7}{10} + \frac{6}{100}$	$40 + 0.7 + 0.06$	40.76
$7\frac{82}{100}$	$7 + \frac{8}{10} + \frac{2}{100}$	$7 + 0.8 + 0.02$	7.82
$18\frac{3}{100}$	$10 + 8 + \frac{3}{100}$	$10 + 8 + 0.03$	18.03

[Edit this solution](#)

Solution: Keeping all zeros

$43\frac{65}{100}$	$40 + 3 + \frac{6}{10} + \frac{5}{100}$	$40 + 3 + 0.6 + 0.05$	43.65
$21\frac{90}{100}$	$20 + 1 + \frac{9}{10} + \frac{0}{100}$	$20 + 1 + 0.9 + 0.00$	21.90
$40\frac{76}{100}$	$40 + 0 + \frac{7}{10} + \frac{6}{100}$	$40 + 0 + 0.7 + 0.06$	40.76
$7\frac{82}{100}$	$0 + 7 + \frac{8}{10} + \frac{2}{100}$	$0 + 7 + 0.8 + 0.02$	7.82
$18\frac{3}{100}$	$10 + 8 + \frac{0}{10} + \frac{3}{100}$	$10 + 8 + 0.0 + 0.03$	18.03



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