

N6.11.1 | Fractions
 Writing recurring decimal as a fraction
non calculator

Write the following recurring decimal as a fraction. Give the answer in simplest form.

$0.\dot{2} = \frac{2}{9}$ $x = 0.222 \dots$ $10x = 2.222 \dots$ $10x - x = 2.222 \dots - 0.222 \dots$ $9x = 2 \Rightarrow x = \frac{2}{9}$	$0.\dot{3}\dot{5} = \frac{35}{99}$ $x = 0.3535 \dots$ $100x = 35.3535 \dots$ $100x - x = 35.3535 \dots - 0.3535 \dots$ $99x = 35 \Rightarrow x = \frac{35}{99}$	$1.2\dot{3}6\dot{7} = \frac{12355}{9990} = \frac{2471}{1998}$ $x = 1.2367367 \dots$ $10x = 12.367367 \dots$ $10000x = 12367.367367 \dots$ $10000x - 10x = 12367.367 \dots - 12.367 \dots$ $9990x = 12355 \Rightarrow x = \frac{12355}{9990}$
$0.\dot{4} =$	$0.\dot{6}\dot{1} =$	$0.1\dot{2}16\dot{1} =$
$0.12\dot{3}\dot{8} =$	$4.\dot{7} =$	$1.0\dot{4}\dot{7} =$
$0.2\dot{9}\dot{3} =$	$0.4\dot{1}0\dot{1} =$	$5.0\dot{1}\dot{9} =$
$10.\dot{5} =$	$0.11\dot{3}\dot{4} =$	$0.\dot{2}0\dot{7} =$