

# Fill in the Blanks

# Recurring Decimal Proof

$x$ as recurring decimal	Write out multiples of $x$	Subtract	$x$ as a fraction
$x = 0.\dot{7}$	$10x = 7.\dot{7} = 7.77777 \dots$	$9x = 7$	$x = \frac{7}{9}$
	$x = 0.\dot{7} = 0.77777 \dots$		
$x = 0.\dot{2}$	$10x = 2.\dot{2} = 2.22222 \dots$	$9x = 2$	$x = \frac{2}{9}$
	$x = 0.\dot{2} = 0.22222 \dots$		
$x = 0.\dot{3}\dot{5}$	$100x = 35.\dot{3}\dot{5} = 35.3535 \dots$	$99x = 35$	$x = \frac{35}{99}$
	$x = 0.\dot{3}\dot{5} = 0.3535 \dots$		
$x = 0.\dot{4}\dot{1}$	$100x = 41.\dot{4}\dot{1} = 41.4141 \dots$	$99x = 41$	$x = \frac{41}{99}$
	$x = 0.\dot{4}\dot{1} = 0.4141 \dots$		
$x = 0.\dot{2}\dot{7}$	$100x = 27.\dot{2}\dot{7} = 27.2727 \dots$	$99x = 27$	$x = \frac{27}{99} = \frac{3}{11}$
	$x = 0.\dot{2}\dot{7} = 0.27272 \dots$		
$x = 0.\dot{6}\dot{1}\dot{3}$	$1000x = 613.\dot{6}\dot{1}\dot{3}$	$999x = 613$	$x = \frac{613}{999}$
	$x = 0.\dot{6}\dot{1}\dot{3}$		
$x = 0.0\dot{2}$	$100x = 2.\dot{2} = 2.22222 \dots$	$90x = 2$	$x = \frac{2}{90} = \frac{1}{45}$
	$10x = 0.\dot{2} = 0.22222 \dots$		
$x = 0.1\dot{4}\dot{3}$	$1000x = 143.\dot{4}\dot{3}$	$990x = 142$	$x = \frac{142}{990} = \frac{71}{495}$
	$10x = 1.\dot{4}\dot{3}$		
$x = 0.93\dot{2}$	$1000x = 932.\dot{2}$	$900x = 839$	$x = \frac{839}{900}$
	$100x = 93.\dot{2}$		
$x = 0.9\dot{3}\dot{2}$	$1000x = 932.\dot{3}\dot{2}$	$990x = 923$	$x = \frac{923}{990}$
	$10x = 9.\dot{3}\dot{2}$		
$x = 0.0\dot{0}\dot{5}$	$1000x = 5.\dot{0}\dot{5} = 5.0505 \dots$	$990x = 5$	$x = \frac{5}{990} = \frac{1}{198}$
	$10x = 0.\dot{0}\dot{5} = 0.0505 \dots$		