

Investigating Terminating and Recurring Decimals

For each of the following fractions, use your calculator to convert it to a decimal, then decide whether it is terminating or recurring. Now find the denominator as a product of its prime factors. Can you spot any patterns?

Fraction	Decimal using Calculator	Terminating or Recurring	Denominator as Product of Prime Factors
$\frac{1}{2}$			
$\frac{1}{3}$			
$\frac{1}{4}$			
$\frac{1}{5}$			
$\frac{1}{6}$			
$\frac{1}{7}$			
$\frac{1}{8}$			
$\frac{1}{9}$			
$\frac{1}{10}$			
$\frac{1}{11}$			

Fraction	Decimal using Calculator	Terminating or Recurring	Denominator as Product of Prime Factors
$\frac{1}{12}$			
$\frac{1}{13}$			
$\frac{1}{14}$			
$\frac{1}{15}$			
$\frac{1}{16}$			
$\frac{1}{17}$			
$\frac{1}{18}$	0.0 $\dot{5}$	Recurring	$2 \times 3 \times 3$
$\frac{1}{19}$			
$\frac{1}{20}$			
$\frac{1}{21}$			