

Decimals to Fractions Investigation

Purpose:

Investigate for which fractions the decimal equivalent is terminating and for which it is recurring.

1. For terminating decimals, investigate the relationship between the fraction and the number of places of the decimal. Use the given examples and create more.

Fraction	Decimal	Number of places of the decimal
	0.5	1
	0.6	1
	0.7	1
	0.28	2
	0.33	2
		2
	0.375	3
		3
		3

2. Explain how you converted the decimal to a fraction for each case (1 decimal place, 2 decimal places and 3 decimal places).

3. What is the rule for converting terminating decimals to fractions?

4. Verify your rule by testing a terminating decimal with more than 3 decimal places.

5. For recurring decimals, investigate the relationship between the fraction and the number of places in the recurring part of the decimal. Do the given examples and create more to test your thoughts.

Fraction	Decimal	Number of places of the decimal
	$0.\bar{3}$	1
		1
	$0.\bar{1}$	1
	$0.\overline{01}$	2
		2
	$0.\overline{142857}$	6

4. Explain how you can convert recurring decimals to a fraction.