

Year 6 Decimals Knowledge

Place Value

Tens	Ones	tenths	hundredths	thousandths
	1 1 1	0.1 0.1 0.1 0.1	0.01 0.01	0.001 0.001 0.001 0.001

$3 + \frac{4}{10} + \frac{2}{100} + \frac{6}{1000} \leftarrow 3.426 \rightarrow 3 + 0.4 + 0.02 + 0.006$

1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009

Multiplying Decimals by Integers

$3.21 \times 3 = 9.63$

Ones	tenths	hundredths
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01

$3.21 \times 3 = 9.63$

Dividing Decimals by Integers

$8.12 \div 4 = 2.03$

Ones	tenths	hundredths
1 1	0.1 0.1 0.1	0.01
1 1	0.1 0.1 0.1	0.01
1 1	0.1 0.1 0.1	0.01

$6.93 \div 3 = 2.31$

Fractions to Decimals

$\frac{7}{20} = \frac{35}{100} = 0.35$
 $\frac{7}{25} = \frac{28}{100} = 0.28$
 $\frac{7}{50} = \frac{14}{100} = 0.14$
 $\frac{8}{200} = \frac{4}{100} = 0.04$

When the denominator is not a factor or multiple of 100

$\frac{7}{8} = 7 \div 8$

0	8	7	5
8	7	0	6

Percentage and Decimal Equivalents

$50\% = \frac{50}{100} = \frac{1}{2} = 0.5$
 $25\% = \frac{25}{100} = \frac{1}{4} = 0.25$
 $10\% = \frac{10}{100} = \frac{1}{10} = 0.1$
 $40\% = \frac{40}{100} = \frac{2}{5} = 0.4$
 $20\% = \frac{20}{100} = \frac{1}{5} = 0.2$
 $1\% = \frac{1}{100} = 0.01$
 $70\% = \frac{70}{100} = \frac{7}{10} = 0.7$

Crossing the Whole

$0.82 + 0.63 = 1.45$
 $2.531 - 0.6 = 1.931$

Decimal Numbers as Fractions

$\frac{1}{10} = 0.1$
 $\frac{50}{100} = \frac{1}{2} = 0.5$
 $\frac{25}{100} = \frac{1}{4} = 0.25$
 $\frac{75}{100} = \frac{3}{4} = 0.75$
 $\frac{20}{100} = \frac{1}{5} = 0.2$

$\frac{1}{3} = 0.33$
 $\frac{1}{8} = 0.125$
 $\frac{1}{1000} = 0.001$

Multiplying and Dividing by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		2	0	8		
		2	0	8		
		2	0	8		

$\times 10$

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
		4	3	5		
		4	3	5		

$\times 100$

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		1	3	5		1
		1	3	5		1
		1	3	5		1

$\times 1000$