1 Write numbers up to 10 million in digits

Let's Learn

Write the numbers below in digits.	
Seven million, two hundred and three thousand and twenty-seven	Eight million, two hundred thousand, three hundred
Five million, two thousand, five hundred	Two million, two hundred and two thousand and two

Your Turn

Write the numbers below in digits.	
Four million, seven hundred and twenty thousand and twenty	Four million, fifty thousand and eighty
Five million, three thousand and five	Three million, two hundred thousand and twelve

2 Write numbers up to 10 million in words

Let's Learn

Write the numbers below in words.
9,291,536
4,590,000
6,070,040
4,000,800

Your Turn

Write the numbers below in words.
3,203,567
6,210,000
5,050,050
3,000,080

3 Identify the digit in each place value for seven-digit numbers

Let's Learn

For the questions below, write the digit of each place value.

7,451,194		5,709,846		2,043,198	
Millions:		Hundred thousands:		Ones:	
Hundred thousands:		Tens:		Hundreds:	
Ten thousands:		Millions:		Hundred thousands:	
Thousands:		Thousands:		Thousands:	
Hundreds:		Ones:		Ten thousands:	
Tens:		Ten thousands:		Millions:	
Ones:		Hundreds:		Tens:	

Your Turn

For the questions below, write the digit of each place value.

2,447,891		2,896,051		1,471,380	
Millions:		Hundred thousands:		Ones:	
Hundred thousands:		Tens:		Hundreds:	
Ten thousands:		Millions:		Hundred thousands:	
Thousands:		Thousands:		Thousands:	
Hundreds:		Ones:		Ten thousands:	
Tens:		Ten thousands:		Millions:	
Ones:		Hundreds:		Tens:	

4 Identify the value of each digit in seven-digit numbers

Let's Learn

For the questions below, write the value of each digit.

4,052,160	8,504,297	2,638,041
4 represents: ☐	2 represents: ☐	6 represents: ☐
5 represents: ☐	4 represents: ☐	8 represents: ☐
2 represents: ☐	7 represents: ☐	2 represents: ☐
1 represents: ☐	8 represents: ☐	1 represents: ☐
6 represents: ☐	9 represents: ☐	4 represents: ☐
	5 represents: ☐	3 represents: ☐

Your Turn

For the questions below, write the value of each digit.

7,035,690	4,802,695	1,279,068
7 represents: ☐	6 represents: ☐	2 represents: ☐
3 represents: ☐	2 represents: ☐	9 represents: ☐
5 represents: ☐	5 represents: ☐	1 represents: ☐
6 represents: ☐	4 represents: ☐	8 represents: ☐
9 represents: ☐	9 represents: ☐	6 represents: ☐
	8 represents: ☐	7 represents: ☐

5 Partition seven-digit numbers

Let's Learn

Partition the numbers below.

4,307,042 = ☐ + ☐ + ☐ + ☐ + ☐

6,193,413 = ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐

7,460,253 = ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐

Your Turn

Partition the numbers below.

6,609,012 = ☐ + ☐ + ☐ + ☐ + ☐

5,265,263 = ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐

7,280,989 = ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐

6 Order numbers with up to seven digits

Let's Learn

Order each set of numbers from smallest to largest.

9 600 000, 696 000, 90 000, 6 990 000, 9 660 000

77 666, 6 677 666, 7 777, 7 676 666, 7 767 777

Your Turn

Order each set of numbers from smallest to largest.

500 000, 54 000, 4 055 000, 4 500 000, 4 504 000

9 090, 8 090 000, 9 800 000, 900 000, 8 800 000

7 Round to the nearest 10, 100, 1000, 10 000, 100 000 and 1 000 000

Let's Learn

For the questions below, round each number to the specified degree of accuracy.

7,451,194 Round to the nearest…		3,409,846 Round to the nearest…		2,042,242 Round to the nearest…	
Million:		Million:		Million:	
Hundred thousand:		Hundred thousand:		Hundred thousand:	
Ten thousand:		Ten thousand:		Ten thousand:	
Thousand:		Thousand:		Thousand:	
Hundred:		Hundred:		Hundred:	
Ten:		Ten:		Ten:	

Your Turn

For the questions below, round each number to the specified degree of accuracy.

6,901,098 Round to the nearest…		1,208,917 Round to the nearest…		3,106,307 Round to the nearest…	
Million:		Million:		Million:	
Hundred thousand:		Hundred thousand:		Hundred thousand:	
Ten thousand:		Ten thousand:		Ten thousand:	
Thousand:		Thousand:		Thousand:	
Hundred:		Hundred:		Hundred:	
Ten:		Ten:		Ten:	

8 Recognise place value – millionths to thousandths

Let's Learn

We have a base 10 number system. Explain what this means.

9 Count in powers of 10

Let's Learn

Complete the missing values by counting in powers of 10.

0.007		4 600 000
	40.29	
0.7		
		4600
	40290	
7000		
		0.46

Your Turn

Complete the missing values by counting in powers of 10.

0.005		3 450 000
	0.23	
5		3450
	230	
		3.45
500 000	2 300 000	

1 Perform mental calculations involving brackets

Let's Learn

(2 x 35) + (60 ÷ 3) =	70 ÷ (14 – 4) =
40 + (40 ÷ 5) =	(194 + 6) x (34 – 4) =

Your Turn

(2 x 25) + (90 ÷ 3) =	90 ÷ (15 – 5) =
30 + (30 ÷ 6) =	(198 + 2) x (42 – 2) =

2 Apply knowledge of the order of operations

Let's Learn

20 – 4 x 2 =	30 + 5 x 2 =	60 – 42 ÷ 6 =
80 + 20 ÷ 10 =	9^2 – 36 ÷ 9 =	8^2 + 24 ÷ 4 =

Your Turn

20 + 4 x 2 =	3 x 5 + 2 =	60 + 42 ÷ 6 =
80 – 20 + 10 =	9^2 + 36 ÷ 9 =	8 – 2^2 ÷ 4 =

3 Use factor pairs in mental calculations for division

Let's Learn

Use factor pairs to solve the division questions below.		
414 ÷ 18 =	819 ÷ 21 =	1888 ÷ 32 =

Your Turn

Use factor pairs to solve the division questions below.		
546 ÷ 21 =	900 ÷ 36 =	3384 ÷ 72 =

4 Divide by a two-digit number with a single-digit quotient

Let's Learn

120 ÷ 15 =	39 ÷ 13 =	188 ÷ 47 =	258 ÷ 43 =	153 ÷ 17 =

Your Turn

90 ÷ 15 =	92 ÷ 23 =	138 ÷ 46 =	222 ÷ 37 =	136 ÷ 17 =

5 Begin to divide by a 2-digit number using long division by calculating to 5 times

Let's Learn

645 ÷ 43 =	850 ÷ 34 =
585 ÷ 39 =	4563 ÷ 13 =

Your Turn

888 ÷ 37 =	714 ÷ 17 =
3016 ÷ 13 =	725 ÷ 29 =

6 Divide by a 2-digit number using long division

Let's Learn

2016 ÷ 36 =	3384 ÷ 47 =

Your Turn

2331 ÷ 37 =	1118 ÷ 43 =

7 Divide by a 2-digit number using the most efficient method

Let's Learn

2242 ÷ 59 =	8015 ÷ 83 =

Your Turn

8827 ÷ 97 =	1911 ÷ 49 =

1 Simplify fractions

Let's Learn

Simplify the fractions below to their lowest terms.			
$\frac{6}{12}$ =	$\frac{10}{15}$ =	$\frac{20}{24}$ =	$\frac{6}{10}$ =

Your Turn

Simplify the fractions below to their lowest terms.			
$\frac{8}{16}$ =	$\frac{12}{16}$ =	$\frac{20}{25}$ =	$\frac{6}{15}$ =

2 Compare fractions with denominators which are not common multiples

Let's Learn

Write < or >.		
$\frac{1}{2} \square \frac{3}{5}$	$\frac{5}{6} \square \frac{3}{4}$	$\frac{5}{8} \square \frac{7}{12}$

Your Turn

Write < or >.		
$\frac{1}{3} \square \frac{2}{7}$	$\frac{5}{6} \square \frac{7}{8}$	$\frac{3}{5} \square \frac{7}{12}$

3 Compare improper fractions with denominators which are not common multiples

Let's Learn

Write < or >.	
$\frac{3}{2} \square \frac{8}{5}$	$\frac{7}{6} \square \frac{5}{4}$

Your Turn

Write < or >.	
$\frac{4}{3} \square \frac{7}{5}$	$\frac{7}{5} \square \frac{3}{2}$

4 Order fractions with denominators which are not common multiples

Let's Learn

Order these fractions from smallest to largest.	
$\frac{7}{10}, \frac{4}{5}, \frac{11}{15}, \frac{2}{3}$	☐ ☐ ☐ ☐

Your Turn

Order these fractions from smallest to largest.	
$\frac{1}{2}, \frac{5}{8}, \frac{7}{12}, \frac{2}{3}$	☐ ☐ ☐ ☐

5 Order improper fractions with denominators which are not common multiples

Let's Learn

Order these fractions from smallest to largest.	
$\frac{11}{10}, \frac{7}{5}, \frac{13}{15}, \frac{4}{3}$	☐ ☐ ☐ ☐

Your Turn

Order these fractions from smallest to largest.	
$\frac{19}{12}, \frac{9}{5}, \frac{16}{10}, \frac{9}{6}$	☐ ☐ ☐ ☐

6 Add fractions with denominators which are not common multiples within 1

Let's Learn

$\frac{1}{2}+\frac{1}{5}=$	$\frac{1}{5}+\frac{3}{4}=$

Your Turn

$\frac{1}{2}+\frac{1}{9}=$	$\frac{1}{5}+\frac{4}{7}=$

7 Subtract fractions with denominators which are not common multiples within 1

Let's Learn

$\frac{5}{6}-\frac{1}{8}=$	$\frac{3}{4}-\frac{2}{3}=$

Your Turn

$\frac{5}{6}-\frac{1}{4}=$	$\frac{3}{5}-\frac{2}{7}=$

8 Solve missing number problems for addition and subtraction of fractions with denominators which are not common multiples within 1

Let's Learn

$\frac{3}{5}+\square=\frac{3}{4}$	$\frac{1}{2}-\square=\frac{1}{5}$	$\square-\frac{2}{5}=\frac{1}{3}$

Your Turn

$\frac{2}{5}+\square=\frac{5}{6}$	$\frac{1}{3}-\square=\frac{1}{8}$	$\square-\frac{2}{7}=\frac{1}{8}$

9 Add fractions with denominators which are not common multiples beyond 1 whole, writing answers as mixed numbers

Let's Learn

$\frac{4}{5}+\frac{3}{4}=$	$\frac{6}{7}+\frac{1}{2}=$

Your Turn

$\frac{4}{5}+\frac{2}{3}=$	$\frac{7}{8}+\frac{1}{6}=$

10 Subtract a fraction from an improper fraction or mixed number with a denominator which is not a multiple of the denominator in the fraction and with 1 whole

Let's Learn

$1\frac{1}{2}-\frac{2}{3}=$	$1\frac{1}{6}-\frac{3}{4}=$

Your Turn

$1\frac{1}{3}-\frac{1}{2}=$	$1\frac{1}{4}-\frac{3}{5}=$

11 Solve missing number problems for addition and subtraction of fractions with denominators which are not common multiples beyond 1

Let's Learn

$1\frac{1}{7}-\square=\frac{2}{3}$	$\square-\frac{3}{8}=\frac{5}{7}$	$\frac{1}{3}+\square=1\frac{1}{5}$

Your Turn

$1\frac{1}{8}-\square=\frac{4}{5}$	$\square-\frac{5}{8}=\frac{5}{6}$	$\frac{1}{2}+\square=1\frac{1}{5}$

12 Add a fraction to a mixed number with a denominator which is not a multiple of the denominator in the fraction, without regrouping

Let's Learn

$2\frac{2}{5} + \frac{1}{4} =$	$1\frac{1}{2} + \frac{1}{5} =$

Your Turn

$1\frac{3}{5} + \frac{1}{6} =$	$2\frac{1}{3} + \frac{3}{5} =$

13 Add a fraction to a mixed number with a denominator which is not a multiple of the denominator in the fraction, regrouping to make 1 more whole

Let's Learn

Answer the questions below by regrouping to make 1 more whole.

$1\frac{2}{5} + \frac{3}{4} =$	$2\frac{1}{2} + \frac{4}{5} =$

Your Turn

Answer the questions below by regrouping to make 1 more whole.

$1\frac{3}{4} + \frac{4}{5} =$	$2\frac{1}{2} + \frac{6}{7} =$

14 Add a fraction to a mixed number with a denominator which is not a multiple of the denominator in the fraction by converting to an improper fraction

Let's Learn

Now answer the questions above by converting mixed numbers to improper fractions.

Your Turn

Now answer the questions above by converting mixed numbers to improper fractions.

15 Add mixed numbers with denominators which are not common multiples, without regrouping

Let's Learn

$2\frac{1}{6} + 2\frac{2}{5} =$	$2\frac{3}{7} + 1\frac{1}{2} =$

Your Turn

$2\frac{5}{6} + 1\frac{1}{7} =$	$2\frac{2}{9} + 2\frac{1}{2} =$

16 Add mixed numbers with denominators which are not common multiples, regrouping to make 1 more whole

Let's Learn

Answer the questions below by regrouping to make 1 more whole.

$2\frac{1}{2} + 2\frac{5}{7} =$	$2\frac{3}{4} + 1\frac{2}{3} =$

Your Turn

Answer the questions below by regrouping to make 1 more whole.

$2\frac{1}{2} + 2\frac{3}{5} =$	$2\frac{4}{5} + 1\frac{3}{4} =$

17 Add mixed numbers with denominators which are not common multiples by converting to improper fractions

Let's Learn

Now answer the questions above by converting mixed numbers to improper fractions.

Your Turn

Now answer the questions above by converting mixed numbers to improper fractions.

18 Subtract a fraction from a mixed number with a denominator which is not a multiple of the denominator in the fraction, without regrouping

Let's Learn

$1\frac{4}{5} - \frac{3}{4} =$	$2\frac{1}{2} - \frac{1}{7} =$

Your Turn

$1\frac{6}{7} - \frac{3}{4} =$	$2\frac{5}{9} - \frac{1}{2} =$

19 Subtract a fraction from a mixed number with a denominator which is not a multiple of the denominator in the fraction, regrouping to make 1 fewer whole

Let's Learn

Answer the questions below by regrouping to make 1 fewer whole.

$2\frac{1}{5} - \frac{3}{4} =$	$2\frac{1}{3} - \frac{1}{2} =$

Your Turn

Answer the questions below by regrouping to make 1 fewer whole.

$2\frac{1}{6} - \frac{1}{4} =$	$2\frac{1}{2} - \frac{2}{3} =$

20 Subtract a fraction from a mixed number with a denominator which is not a multiple of the denominator in the fraction by converting to an improper fraction

Let's Learn

Now answer the questions above by converting mixed numbers to improper fractions.

Your Turn

Now answer the questions above by converting mixed numbers to improper fractions.

21 Subtract mixed numbers with denominators which are not common multiples, without regrouping

Let's Learn

$2\frac{3}{4} - 1\frac{2}{3} =$	$2\frac{3}{5} - 1\frac{1}{2} =$

Your Turn

$2\frac{3}{5} - 1\frac{1}{3} =$	$2\frac{7}{9} - 1\frac{3}{8} =$

22 Subtract mixed numbers with denominators which are not common multiples, regrouping to make 1 fewer whole

Let's Learn

Answer the questions below by regrouping to make 1 fewer whole.

$3\frac{1}{5} - 1\frac{1}{3} =$	$3\frac{3}{4} - 1\frac{5}{6} =$

Your Turn

Answer the questions below by regrouping to make 1 fewer whole.

$3\frac{1}{4} - 1\frac{1}{3} =$	$4\frac{2}{5} - 1\frac{1}{2} =$

23 Subtract mixed numbers with denominators which are not common multiples by converting to improper fractions

Let's Learn

Now answer the questions above by converting mixed numbers to improper fractions.

Your Turn

Now answer the questions above by converting mixed numbers to improper fractions.

24 Multiply unit fractions

Let's Learn

$\frac{1}{3} \times \frac{1}{3} =$	$\frac{3}{5} \times \frac{1}{4} =$	$\frac{7}{10} \times \frac{1}{2} =$

Your Turn

$\frac{1}{4} \times \frac{1}{4} =$	$\frac{3}{4} \times \frac{1}{5} =$	$\frac{5}{12} \times \frac{1}{2} =$

25 Multiply non-unit fractions

Let's Learn

$\frac{2}{3} \times \frac{2}{3} =$	$\frac{3}{5} \times \frac{3}{4} =$

Your Turn

$\frac{4}{5} \times \frac{4}{5} =$	$\frac{2}{5} \times \frac{3}{4} =$

26 Multiply non-unit fractions, simplifying at the end

Let's Learn

For the questions below, simplify your answer after multiplying.	
$\frac{3}{4} \times \frac{8}{9} =$	$\frac{7}{10} \times \frac{5}{10} =$

Your Turn

For the questions below, simplify your answer after multiplying.	
$\frac{4}{5} \times \frac{5}{6} =$	$\frac{8}{10} \times \frac{4}{10} =$

27 Divide fractions by whole numbers

Let's Learn

$\frac{1}{3} \div 3 =$	$\frac{3}{5} \div 4 =$	$\frac{7}{10} \div 2 =$

Your Turn

$\frac{1}{4} \div 2 =$	$\frac{3}{4} \div 5 =$	$\frac{3}{10} \div 5 =$

28 Find the fraction that lies halfway between two fractions

Let's Learn

Find the midpoint of $\frac{1}{5}$ and $\frac{2}{5}$.	Find the midpoint of $\frac{2}{3}$ and $\frac{3}{4}$.

Your Turn

Find the midpoint of $\frac{4}{7}$ and $\frac{2}{3}$.	Find the midpoint of $\frac{2}{7}$ and $\frac{1}{3}$.

1 Write remainders as decimals

Let's Learn

For each question, write the remainder as a decimal.		
12 ÷ 5 =	19 ÷ 4 =	11 ÷ 2 =

Your Turn

For each question, write the remainder as a decimal.		
18 ÷ 5 =	13 ÷ 4 =	15 ÷ 2 =

2 Write remainders as decimals with larger numbers

Let's Learn

For each question, write the remainder as a decimal.		
5481 ÷ 5 =	3181 ÷ 4 =	9651 ÷ 2 =

Your Turn

For each question, write the remainder as a decimal.		
9184 ÷ 5 =	3362 ÷ 4 =	3079 ÷ 2 =

3 Multiply a number with tenths by a whole number

Let's Learn

0.2 x 3 =	0.4 x 3 =	0.3 x 5 =
3.2 x 4 =	1.4 x 5 =	2.7 x 4 =

Your Turn

0.3 x 3 =	0.5 x 4 =	0.6 x 6 =
3.1 x 5 =	2.5 x 3 =	2.3 x 5 =

4 Multiply a number with tenths and hundredths by a whole number

Let's Learn

0.02 x 3 =	0.04 x 3 =	0.03 x 5 =
4.32 x 3 =	2.84 x 4 =	3.07 x 5 =

Your Turn

0.03 x 3 =	0.04 x 5 =	0.06 x 7 =
5.17 x 9 =	5.43 x 7 =	31.8 x 4 =

5 Multiply a number with tenths, hundredths and thousandths by a whole number

Let's Learn

2.814 x 5 =	21.26 x 7 =

Your Turn

261.8 x 4 =	4.206 x 8 =

6 Divide a number with tenths, hundredths or thousandths

Let's Learn

7.2 ÷ 3 =	4.86 ÷ 3 =	5.862 ÷ 3 =

Your Turn

9.6 ÷ 4 =	5.81 ÷ 7 =	98.63 ÷ 7 =

7 Divide a decimal, writing remainders as decimals

Let's Learn

6.2 ÷ 5 =	9.7 ÷ 4 =	7.1 ÷ 2 =

Your Turn

8.8 ÷ 5 =	9.9 ÷ 4 =	8.7 ÷ 2 =

8 Use short multiplication to multiply a decimal

Let's Learn

0.5 x 36 =	0.6 x 300 =	312 x 0.3 =

Your Turn

19 x 0.5 =	0.7 x 200 =	0.4 x 235 =

9 Use long multiplication to multiply a decimal

Let's Learn

14 x 5.1 =	2.8 x 40 =	312 x 4.3 =

Your Turn

3.5 x 27 =	4.7 x 50 =	3.12 x 43 =

10 Use long division to divide a decimal

Let's Learn

14.08 ÷ 32 =	456.3 ÷ 13 =

Your Turn

82.08 ÷ 24 =	3.384 ÷ 47 =

1 Find a percentage of a number which is a multiple of 100

Let's Learn

7% of 500 =	15% x 1000 =	19% of 800 =

Your Turn

6% of 800 =	40% x 2000 =	37% of 500 =

2 Find a percentage by first dividing by 100

Let's Learn

28% of 650 =	85% of 360 =	24% of 350 =	35% x 320 =

Your Turn

36% of 450 =	35% of 320 =	45% of 460 =	65% x 340 =

3 Find a percentage of a number by changing the percentage to a simplified unit fraction

Let's Learn

50% of 596 =	25% of 96 =	20% of 1800 =

Your Turn

50% of 588 =	25% of 72 =	20% of 1600 =

4 Find a percentage of a number by first finding 1, 5, 10 or 50 percent

Let's Learn

35% of 320 =	99% of 300 =	51% of 600 =	90% of 240 =

Your Turn

15% of 800 =	99% of 900 =	55% of 400 =	70% of 380 =