Chilli Challenge

Addition, Subtraction, Multiplication and Division

Calculating

Identify common factors, common multiples and prime numbers below 30

Find the common factors of 8 and 10 by listing the factors of each: **8:** and **10:**
and identifying the common factors.

Find some common multiples of 2 and 7 by listing some multiples of each: **2:** and **7:**
and identifying the common multiples.

Prime numbers between 0 and 30 are:

Addition, Subtraction, Multiplication and Division
Nice and Spicy!

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

$6 + 4 \times 3 = 6 + 12 =$ ☐ (multiplication first)

$(6 + 4) \times 3 = 10 \times 3 =$ ☐ (brackets first)

'sister' calculations

BODMAS or BIDMAS ( ) ^{2} ÷ × + −

Addition, Subtraction, Multiplication and Division
Nice and Spicy!

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Round to the nearest 100 to check the accuracy of

8376 – 2581 = 5795

Solve Problems

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

An archer scores 78 and 67, but is penalised 25 points for a foul shot. What is the archer's total score?

Addition, Subtraction, Multiplication and Division
Nice and Spicy!

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

250 ÷ ☐ = 2.5

Pizzas cost £2 and ice cream £3 per tub. At a party, a pizza serves two people and a tub of ice cream serves three people. How much will pizza and ice cream cost for 12 people?

Addition, Subtraction, Multiplication and Division
Nice and Spicy!

Methods

Perform mental calculations, including with mixed operations and large numbers

105 × 3 – 45 = 315 – 45 = ☐

(330 – 300) ÷ 3 = 30 ÷ 3 = ☐

Addition, Subtraction, Multiplication and Division
Nice and Spicy!

Methods

Multiply multi-digit numbers up to 2 digits by a two-digit whole number using the formal written method of long multiplication

$$\begin{array}{r} 65 \\ \times \quad 28 \\ \hline 520 \\ 1300 \\ \hline \end{array}$$

Methods

Divide numbers up to 3 digits by a two-digit whole number less than 20 using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

```
16 | 5 2 0
     4 8
     ---
       4 0
       3 2
       ---
         8
```

Can be written as ____________

Calculating

Identify common factors, common multiples and prime numbers below 30

Find the common factors of 8 and 10 by listing the factors of each: **8:** 1, 2, 4, 8 and **10:** 1, 2, 5, 10 and identifying the common factors.

Find some common multiples of 2 and 7 by listing some multiples of each: **2:** 2, 4, 6, 8, 10, 12, 14, 16, 18 and **7:** 7, 14, 21, 28 and identifying the common multiples.

Prime numbers between 0 and 30 are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

$6 + 4 \times 3 = 6 + 12 = 18$ (multiplication first)

$(6 + 4) \times 3 = 10 \times 3 = 30$ (brackets first)

'sister' calculations

BODMAS or BIDMAS ( ) ^{2} ÷ × + −

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Round to the nearest 100 to check the accuracy of

8376 – 2581 = 5795

8400 – 2600 = 5800 so it is correct.

Solve Problems

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

An archer scores 78 and 67, but is penalised 25 points for a foul shot. What is the archer's total score?

120

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

250 ÷ = 2.5

250 must be divided by 100

Pizzas cost £2 and ice cream £3 per tub. At a party, a pizza serves two people and a tub of ice cream serves three people. How much will pizza and ice cream cost for 12 people?

£12 for pizza and £12 for ice cream so £24

Methods

Perform mental calculations, including with mixed operations and large numbers

105 × 3 – 45 = 315 – 45 = 270

(330 – 300) ÷ 3 = 30 ÷ 3 = 10

Methods

Multiply multi-digit numbers up to 2 digits by a two-digit whole number using the formal written method of long multiplication

$$\begin{array}{r} {}^{1\,4}\ 6\ 5 \\ \times\quad 2\ 8 \\ \hline 5\ 2\ 0 \\ 1\ 3\ 0\ 0 \\ \hline \mathbf{1\ 8\ 2\ 0} \end{array}$$

Methods

Divide numbers up to 3 digits by a two-digit whole number less than 20 using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

$$\begin{array}{r} \mathbf{3\ 2\ r\ 8} \\ 1\ 6\,\overline{)\,5\ 2\ 0} \\ 4\ 8 \\ \hline 4\ 0 \\ 3\ 2 \\ \hline 8 \end{array}$$

Can be written as 32 r8 32 $\frac{1}{2}$

Calculating

Identify common factors, common multiples and prime numbers

The common factors of 15 and 24 are ☐ and ☐

Use to find an equivalent fraction of $\frac{\square}{\square} = \frac{-}{-}$

Some common multiples of 4 and 9 are ☐, ☐, ☐...

The prime numbers between 20 and 50 are ☐, ☐, ☐, ☐, ☐, ☐ and ☐.

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

6 + 4 × 3 = 6 + 12 = ☐ (multiplication first)

(6 + 4) × 3 = 10 × 3 = ☐ (brackets first)

'sister' calculations

BODMAS or BIDMAS ( ) ^{2} ÷ × + –

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Round to the nearest 1000 to check the accuracy of

378,376 – 182,581 = 195,765

Solve Problems

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

An archer scores 98, 93 and 97. Another archer scores 91, 96, 89. What was the difference between the scores? Explain how you would use addition and subtraction to calculate the answer.

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

Use 6593 ÷ 19 = 347 to solve 18 × 347 =

Pizzas cost £2.40 and ice cream £4.25 per tub. At a party, a pizza serves two people and a tub of ice cream serves five people. How much will pizza and ice cream cost for 20 people?

Methods

Perform mental calculations, including with mixed operations and large numbers

295 × 3 – 245 = 885 – 245 = ☐

(6033 – 3000) ÷ 3 = 3033 ÷ 3 = ☐

Methods

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

$$\begin{array}{r} 3729 \\ \times \quad 36 \\ \hline 22374 \\ 111870 \\ \hline \end{array}$$

Methods

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

$$\begin{array}{r} \\ 24\overline{)7194} \\ \underline{48} \\ 239 \\ \underline{\quad} \\ \\ \underline{\quad} \end{array}$$

This can be written two ways: _____ or _____

It's getting hot!

Methods

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

$$24\overline{)7194.00}$$

Calculating

Identify common factors, common multiples and prime numbers

The common factors of 15 and 24 are 1 and 3.

Use to find an equivalent fraction of $\frac{15}{24} = \frac{5}{8}$

Some common multiples of 4 and 9 are 36, 72, 108 ...

The prime numbers between 20 and 50 are 23, 29, 31, 37, 41, 43 and 47.

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

6 + 4 × 3 = 6 + 12 = 18 (multiplication first)

(6 + 4) × 3 = 10 × 3 = 30 (brackets first)

'sister' calculations

BODMAS or BIDMAS ( ) ^{2} ÷ × + –

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Round to the nearest 1000 to check the accuracy of

378,376 – 182,581 = 195,765

378,000 – 183,000 = 195,000

Explain that this shows the answer is accurate to the nearest 1000, but doesn't find the mistake.

This shows that the answer is reasonable but does not highlight the error in the calculation.

Solve Problems

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

An archer scores 98, 93 and 97. Another archer scores 91, 96, 89. What was the difference between the scores? Explain how you would use addition and subtraction to calculate the answer.

288 - 276 = 12

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

Use 6593 ÷ 19 = 347 to solve 18 × 347 =

subtract 347 from 6593

Pizzas cost £2.40 and ice cream £4.25 per tub. At a party, a pizza serves two people and a tub of ice cream serves five people. How much will pizza and ice cream cost for 20 people?

£24 for pizza and £17 for ice cream so £41

Addition, Subtraction, Multiplication and Division It's getting hot!

Methods

Perform mental calculations, including with mixed operations and large numbers

295 × 3 – 245 = 885 – 245 = 640

(6033 – 3000) ÷ 3 = 3033 ÷ 3 = 1011

Addition, Subtraction, Multiplication and Division It's getting hot!

Methods

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

$$
\begin{array}{r}
3\,7\,2\,9 \\
\times \quad 3\,6 \\
\hline
2\,2\,3\,7\,4 \\
1\,1\,1\,8\,7\,0 \\
\hline
\mathbf{1\,3\,4\,2\,4\,4} \\
{\scriptstyle 1\,1\quad\quad}
\end{array}
$$

Addition, Subtraction, Multiplication and Division It's getting hot!

Methods

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

$$
\begin{array}{r|l}
 & \mathbf{2\,9\,9\ r\ 8} \\
\hline
2\,4 & 7\,1\,9\,4 \\
 & 4\,8 \\
\hline
 & 2\,3\,9 \\
 & 2\,1\,6 \\
\hline
 & \;\;2\,3\,4 \\
 & \;\;2\,1\,6 \\
\hline
 & \;\;\;\;1\,8
\end{array}
$$

This can be written two ways: 299.75 or 299 $\frac{3}{4}$

Methods

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

$$
\begin{array}{r}
2\,9\,9.\,7\,5 \\
24\overline{)\,7\,1^{23}9^{23}4\,.^{18}0^{12}0}
\end{array}
$$

Calculating

Identify common factors, common multiples and prime numbers

The common factors of 21 and 35 are ☐ and ☐

Use to find equivalent fraction of $\frac{21}{35} = \square$ explaining why.

Some common multiples of 5 and 12 are ☐, ☐, ☐ etc.

Explain how to use this when adding fractions.

The prime numbers between 0 and 100 are:

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

Explain why $6 + 4 \times 3 + 2 \neq (6 + 4) \times (3 + 2)$.

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Explain how to use rounding to check 378,376 – 182,581 = 195,765 and which rounded answer will help find the mistake.
For example, rounding to the nearest ten thousand:
380,000 – 180,000 = 200,000 shows the answer 195,765 is not unreasonable, but does not highlight the error in the calculation.

Solve Problems

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Write a word problem where the answer involves at least two addition and two subtraction calculations.

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

Use 6593 ÷ 19 = 347 to solve 17 × 347 =

802 ÷ ____ = 0.401

Write a three-step word problem where three different operations must be performed to calculate the answer.

Methods

Perform mental calculations, including with mixed operations and large numbers

395 × 5 – 945 =

(9099 – 3000) ÷ 3 =

Methods

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Explain how the formal long multiplication method compares to an alternative multiplication strategy.

Methods

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Explain how the formal written method of short division provides an answer as a decimal.

Methods

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

Explain how the formal written method of short division provides an answer as a decimal. Write two different word problems to explain the two different ways that the remainder can be used.

1. The remainder is not used because it is not a complete set or group.
2. The remainder needs to be used, although the final group or set is incomplete.

Calculating

Identify common factors, common multiples and prime numbers

The common factors of 21 and 35 are 1 and 7.

Use to find equivalent fraction of $\frac{21}{35} = \frac{3}{5}$ explaining why.

21/35 = 3/5 because 21 ÷ 7 = 3 and 35 ÷ 7 = 5

Some common multiples of 5 and 12 are 60, 120, 180 etc.

Explain how to use this when adding fractions.

You can use this when adding fractions like 3/5 and 5/12 to find equivalent fractions with a common denominator.

Know and recognise all the prime numbers between 0 and 100.

2, 3, 5, 7, 11 ,13 ,17 ,19 ,23 ,29 ,31 ,37 ,41 ,43 ,47 ,53 ,59 ,61 , 67 ,71 ,73 ,79,83,89,97.

Calculating

Use their knowledge of the order of operations to carry out calculations involving the four operations

Explain why 6 + 4 × 3 + 2 ≠ (6 + 4) × (3 + 2).

6 + 4 x 3 + 2 = 6 + (4x3) + 2 = 6 + 12 + 2 = 20

(6 + 4) x (3 + 2) = 10 x 5 = 50

BODMAS or BIDMAS

Calculating

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Explain how to use rounding to check 378,376 – 182,581 = 195,765 and which rounded answer will help find the mistake.

For example, rounding to the nearest ten thousand:

380,000 – 180,000 = 200,000 shows the answer 195,765 is not unreasonable, but does not highlight the error in the calculation.

378,000 + 183,000 = 195,000 also shows the answer 195,765 is not unreasonable but does not highlight the error in calculation.

378,400 – 182,600 = 195,800

378,380 – 182,580 = 195,800

Solve Problems

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Write a word problem where the answer involves at least two addition and two subtraction calculations.

Accept problems that involve two addition and two subtraction calculations.

Solve Problems

Solve problems involving addition, subtraction, multiplication and division

Use 6593 ÷ 19 = 347 to solve 17 × 347 =

802 ÷ ____ = 0.401

Write a three-step word problem where three different operations must be performed to calculate the answer.

Take two lots of 347 away from 6593. This will leave you with 5899.

5899 and 2000

Accept a word problem that involves using 3 operations to find the answer.

Methods

Perform mental calculations, including with mixed operations and large numbers

395 × 5 – 945 = 1030

(9099 – 3000) ÷ 3 = 2033

Methods

Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Explain how the formal long multiplication method compares to an alternative multiplication strategy.

Children explain to one another/teacher according to method taught in class.

Methods

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Explain how the formal written method of short division provides an answer as a decimal.

Children explain to one another/teacher according to method taught in class.

Methods

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

Explain how the formal written method of short division provides an answer as a decimal. Write two different word problems to explain the two different ways that the remainder can be used.

1. The remainder is not used because it is not a complete set or group.
2. The remainder needs to be used, although the final group or set is incomplete.

Children explain to one another/teacher according to method taught in class.