Aston and Cote CoE Primary School – Knowledge Organiser 2024/25		
Subject: Maths	Year 6	Term Two

Multiply 4-digit numbers by 2-digit numbers:

286 × 29 is approximately 300 × 30 = 9000

×	20	9	
200	4000	1800	5800
80	1600	720	2320
6	120	54	174
			8294
			1

286 × 29 = 8294

4000	200 × 20 = 4000
1600	80 × 20 = 1600
120	6 × 20 = 120
1800	200 × 9 = 1800
720	80 × 9 = 720
54	6 × 9 = 54
8294	
1	

286 × 29 = 8294

5720	286 × 20
2574	286 × 9
8294	
1	

Come up with five of your own calculations and work out the answer.
CHALLENGE: Can you come up with your own word problem?

Order of operations

Brackets
Indices
Division
Multiplication
Addition
Subtraction

Calculate: 3 x (7 - 3)

In this question, we have a bracket, a subtraction and a multiplication.

BIDMAS tells us that brackets come first,

So we calculate:

3 x (7 - 3) = 3 x 4

= 12

Work out the following questions:

3 x 5 + (7 – 4) =
32 – (12 x 2) =
(75 ÷ 5) + (12 x 2)

Can you come up with any of your own?

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Four-digit numbers divided by 2-digit numbers

2898÷ 14= 207

Work out the following answers:
1550 ÷ 24 =
1403 ÷ 61 =
4416 ÷ 45 =
1,978 ÷ 86

The Mean

The term mean is the same as asking for the average. The mean number of marks on a paper means the average mark.

To work out the mean, we follow 2 simple steps:
1. Add up all the values we have been given.
2. Divide the total by however many values there were.

Hassan is the top batsman for the cricket team. His scores over the year are: 134, 60, 17, 63, 38, 84, 11

Calculate the mean number of runs Hassan scored.

For Hasan's mean score, I first add up all the values (134+60+17+63+38+84+11 = 407).
Then I divide 407 by how many scores there are (407 ÷ 7 = 58.14) So on average, Hasan scores 58.14 runs each match.

Work out the mean averages for the following scores in maths tests:
James – 78, 67, 56, 87, 65
Emma – 42, 23, 42, 75

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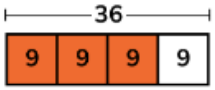
Fractions of an amount:

Fractions of Amounts

Fractions of amounts are when we are asked to find a certain fraction of a given amount by multiplication. They are also called finding fractions of numbers. Using a bar model is a useful way of doing this.

E.g.
Calculate $\frac{3}{4}$ of **36**



$\frac{1}{4}$ of **36** = **9**

So to work out three quartes we multiply this by 3:

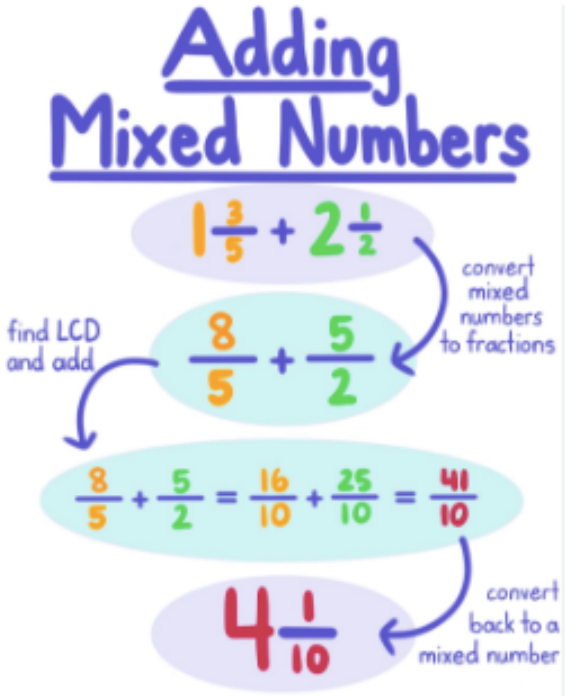
$\frac{3}{4}$ of **36** = **27**

THIRD SPACE LEARNING

Work out the fractions of the amounts:

¾ of 108
2/3 of 183
4/5 of 5065

Adding and subtraction mixed numbers:



Add the following mixed numbers:

2 1/3 + 3 ¼ =

2 2/5 + 1 1/2 =

5 1/5 + 1 7/8 =

Subtract the following mixed numbers

3 2/3 – 1 ½ =

3 1/3 – 2 1/6 =

5 ½ - 3 ¾ =

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Percentages of an amount:

Percentage of an Amount

A **percentage of an amount** allows us to calculate a percentage of a given number by either calculating simple percentages such as 10% and 1% and building the percentage up from there, or by using a percentage multiplier.

E.g. Find **21%** of **£500.**

Using simple percentages

100% is the original amount.
10% = £50
1% = £5
21% of **£500 = 2 x £50 + £5**
= £105

Using percentages multipliers

$21\% = \frac{21}{100} = 0.21$

21% of £500 = 0.21 x 500
= £105

Work out the followng:
23 % of 69 =
45 % of 785 =
87% of 896 =

Would you rather have 40 % of 200 or 20% of 800?
Explain your answer

Converting fractions to decimals

Converting Fractions to Decimals

Converting **fractions to decimals** is representing a fraction as a decimal without changing its value.

Example

Convert $\frac{1}{2}$ to a decimal $\frac{1}{2} = 1 \div 2$ $2\overline{)1.0}$ 0.5 So $\frac{1}{2} = 0.5$

Convert the followng to decimals:
¼ ¾ 4/5 6/5

Which is greater
2/3 or 3/5

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Converting decimals to fractions

Decimal ➡ Fraction

$$.15 = \frac{15}{100} \overset{\div 5}{\underset{\div 5}{}} = \frac{3}{20}$$

The last digit is in the hundredths place.

Use the place value of the last digit to write as fraction with denominator of 10, 100, 1000 etc. Then simplify the fraction if possible.

Convert the following decimals to fractions:

0.6 =
0.25 =
0.18 =
0.75 =
0.85 =

Converting deciamals to percenta and vice versa

Decimal Percent Conversion

Decimal		Percent
.75	Multiply by 100 (Move d.p. 2 places to the right)	75%
.8		80%
.06	Divide by 100 (Move d.p. 2 places to the left)	6%
.345		34.5%

Convert the followng decimals to percetages

0.76 =
0.15 =
0.6 =
0.12 =

Conver the followng percentages to fractions

74%
23%
9%
80%

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Bonus Challenges

1. 45,983 + 23,986 = 2. 53,901 – 24, 812 = 3. 3627 x 83 = 4. 1,755 ÷ 27 = 5. 3/5 of 225 = 6. 45% of 750 = 7. 2/3 x 3/5 = 8. 2 and ½ + 3 and 2/3 =	1. 23,817 + 57,946 = 2. 107,192 – 9, 751 = 3. 94 x 9621 = 4. 1449 ÷ 23 = 5. 2/3 of 657 = 6. 11% of 7150 = 7. 2/3 ÷ 6 = 8. 2 and ½ - 1 and 1/4 =
1. 73,982 + 23,291 2. 39.7 + 12.98 = 3. 34 – 12.71 = 4. 2,192 x 28 = 5. 2/7 of 84 = 6. 12% of 136 = 7. 3 and 1/3 – 2 and 6/7 = 8. 12 x (7x2) =	1. 34 x 78 = 2. 8512 ÷ 4 = 3. 3/5 of 855 = 4. 3% of 712 5. 45 – (12 + 9) = 6. 5 – 0.873 = 7. 43.1 + 34.66 = 8. What are the common factors of 32 and 12