

Year 7 Half Term 1 Knowledge Organizer: Number Skills

Adding Decimals

Line up the decimal points...

$$\begin{array}{r} 3.21 \\ + 4.5 \\ \hline 7.71 \end{array}$$

Add as usual!

and just drag that decimal point straight down!

Subtracting Decimals

Line up the decimal points...

$$\begin{array}{r} 8.97 \\ - 2.82 \\ \hline 6.15 \end{array}$$

Subtract as usual!

and just drag that decimal point straight down!

When else do we use addition and subtraction?

Perimeter (P): The distance around the outside of a shape

Rectangle:
 8 units (top), 5 units (right)
 $P = 2 \times (\text{side} + \text{side})$
 $P = 2 \times (8+5)$
 $P = 26 \text{ units}$

L-shape:
 3 units (top), 4 units (right), 1 unit (bottom), 2 units (left), 4 units (bottom)
 $P = \text{Sum of all sides}$
 $P = 3+4+1+2+4+6$
 $P = 20 \text{ units}$

The range

The range is the difference between the highest and lowest numbers.

Here are Kieran's results again:

9 13 9 11 9 13 11 9 10 8 11

Kieran's highest number is 13, and the lowest 8.

Therefore, the range is $13 - 8 = 5$.

Remember that to find the range of a set of numbers, you need to:

- Find the lowest number.
- Find the highest number.
- Subtract the lowest number from the highest number.
- The difference between the highest and lowest number is the range.

Keywords:

Place Value – The value of a digit, based on it's position within a number

Integer – A whole number

Decimal – A part of a number

Sum – The total amount resulting from addition of numbers

Difference – The result of subtraction of numbers

Estimate – An educated guess, achieved by rounding numbers

words into Math

ADDITION	SUBTRACTION
Add Sum Increased By More Plus Combined Together And	Subtract Difference Decreased by Minus Take away
DIVISION	MULTIPLICATION
Quotient Ratio Shared Per Divided By	Product Times Multiple Twice OF
EQUALS	
IS	
are were will be gives totals	

Year 7 Half Term 2 Knowledge Organizer: Number Skills 2

$$\begin{array}{r} 5 \\ 2.8 \\ \times 7 \\ \hline 196 \end{array}$$

$$2.8 \times 7$$

$$\begin{array}{r} 196 \\ 19.6 \end{array}$$

So, $2.8 \times 7 = 19.6$

$$\begin{array}{r} .4 \\ 5 \overline{)2.35} \\ \underline{-20} \\ 35 \\ \underline{-35} \\ 0 \end{array}$$

$$\begin{array}{r} .47 \\ 5 \overline{)2.35} \\ \underline{-20} \\ 35 \\ \underline{-35} \\ 0 \end{array}$$

So, $2.35 \div 5 = .47$

Area (A): The number of square units inside a shape. $A = \text{length} \times \text{width}$

$4 \times 3 = 12$ square units
 $6 \times 3 = 18$ square units
 $3 \times 3 = 9$ square units
 $A = 18 + 9 = 27$ square units

To find the area of an irregular shape: Isolate rectangles, find the area of each, then find the total.

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Multiple

A multiple is a number that is the product of a given number and some other number.

$6 \times 3 = 18$ (multiple)

How To Find the Multiple of a Given Number

Find the multiples of 3:

Think: $3 \times 1 = 3$, $3 \times 2 = 6$, $3 \times 3 = 9$, $3 \times 4 = 12$

Answers: 3, 6, 9, 12 are all multiples of 3.

You can also count by 3 to find multiples: 3, 6, 9, 12, 15, 18.

Factor

A factor is a number that is multiplied with another number to get a product.

$6 \times 3 = 18$ (factor factor)

How To Find the Factors of a Given Number

Find the factors of 20:

Think: Which numbers can be multiplied together to get a product of 20?

Answers: 1, 2, 4, 5, 10, 20 are all factors of 20.

You can also think what numbers divide evenly into 20 to find the factors.

Keywords:

- Factor - A number that divides evenly into a given number
- Multiple - the times tables of a number
- Prime - a number with exactly two factors: one and itself
- Integer - a whole number
- Highest Common Factor (HCF) - The largest number which divides evenly into two given numbers
- Lowest Common Multiple (LCM) - The smallest number that is in both times tables of two given numbers
- Product - the result of two numbers being multiplied together
- Quotient - the result of two numbers being divided

words into Math

ADDITION
Add, Sum, Increased By, More, Plus, Together, And, Combined

SUBTRACTION
Subtract, Difference, Decreased By, Minus, Take away

MULTIPLICATION
Product, Times, OF, Multiple, Twice

DIVISION
Quotient, Ratio, Shared, Divided By, Per, Divided By

EQUALS
IS

are, were, will be, gives, totals

Turn Around Words
THAN (less than), FROM

Parenthesis Words
Times the difference of, Twice the sum of, Plus the difference of