



Year 7 Knowledge Organiser

FACTORS, MULTIPLES AND PRIMES



Key Concept

Factors:

Find these in pairs

12
1, 12
2, 6
3, 4

Multiples:

Start with the number itself

7 – 7, 14, 21, 28, ...

Key Words

Factor: The numbers which fit into a number exactly.

Multiple: The numbers in the times table.

Prime: Numbers which have only two factors which are 1 and itself.

Highest Common Factor: The highest factor which is common for both numbers.

Lowest Common Multiple: The smallest multiple which is common to both numbers.

Examples

Lowest Common Multiple (LCM)

Q - Find the LCM of 6 and 7:

6 – 6, 12, 18, 24, 30, 36, **42**, 48, 54, 60, ...

7 – 7, 14, 21, 28, 35, **42**, 49, 56, ...

LCM = 42

Highest Common Factor (HCF)

Q – Find the HCF of 18 and 24

18 – 1, 2, 3, **6**, 9, 18

24 – 1, 2, 3, 4, **6**, 8, 12, 24

HCF = 6



Clip Numbers

4, 6, 10, 26 – 34

Tip

There is only one even prime number which is the number 2. This can be used to help solve lots of problems.

Questions

- List the first 5 multiples of: a) 7 b) 12 c) 50
- List the factors of: a) 12 b) 15 c) 16
- a) Find the LCM of 5 and 7 b) Find the HCF of 20 and 16

ANSWERS: 1) a) 7, 14, 21, 28, 35 b) 12, 24, 36, 48, 60 c) 50, 100, 150, 200, 250
2) a) 1, 2, 3, 4, 6, 12 b) 1, 3, 5, 15 c) 1, 2, 4, 8, 16 3) a) 35 b) 4



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FOUR OPERATIONS WITH INTEGERS & DECIMALS

Key Words

Place Value: The value a digit takes when placed in a particular position of a number.

 Add Sum Total All together Plus In all	 Multiply Product Times Twice Total Multiplied by
 Subtract Remain Difference Less than Fewer How many more Minus	 Divide Quotient Goes into Split Equally Each

Examples

$$48 + 36 = 84$$



$$74 - 27 = 47 \text{ worked by counting back:}$$



$$\begin{array}{r} 258 \\ + 87 \\ \hline 345 \\ 11 \end{array}$$

$$\begin{array}{r} 315 \\ - 28 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 38 \\ \times 7 \\ \hline 56 \\ 210 \\ \hline 266 \end{array}$$

$$56 \times 27$$

×	20	7	
50	1000	350	1350
6	120	42	162
			1512
			1

$$\begin{array}{r} 97 \\ 3 \overline{)2921} \end{array}$$



Clip Numbers

1-22, 141-146, 47

Tip

Multiplication and addition are associative, so you can work them out in any order.

So 3×4 is the same as 4×3 .

$4 + 3$ is the same as $3 + 4$

Questions

- a) $49 + 37$ b) $125 + 69$ c) $5.6 + 24.8$
- a) $64 - 28$ b) $134 - 57$ c) $16.2 - 9.5$
- a) 7×146 b) 34×67 c) 2.9×7.2 4) a) $294 \div 7$ b) $192 \div 6$

ANSWERS : 1) a) 86 b) 194 c) 30.4 2) a) 36 b) 77 c) 6.7
 3) a) 1022 b) 2278 c) 20.88 4) a) 42 b) 32