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P.4 Mathematics class work Notes Week one (3/June/2020)

NUMBER PATTERNS AND SEQUENCES

Types of Numbers

1. **Counting/natural numbers**

These are numbers used when counting e.g. {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, …}

2. **Whole numbers**

These are numbers which are not fractions e.g. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, …}

3. **Even numbers**

These are numbers which are exactly divisible by 2. The first even number is zero e.g. {0, 2, 4, 6, 8, 10, …}

4. **Odd numbers**.

These are numbers which **when divided by 2 leave 1 as a remainder** e.g.{1, 3, 5, 7, 9, 11, 13, …}

*NB: The three dots (…) show that **the list is endless**.*

Exercise

1. List all odd numbers between 11 and 30
2. Write the first six whole numbers
3. How many even numbers are less than 18?
4. Write all odd numbers between three and 11.
5. What is the product of the fourth even number and the 9th even number?

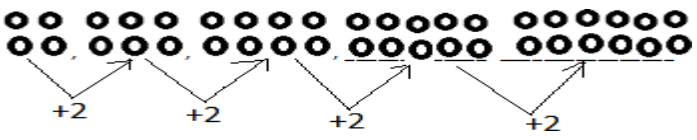
NUMBER SEQUENCES

A sequence is an order list of objects / numbers.

A sequence of numbers must have a common pattern that relates them.

Examples

Complete the following patterns.



Complete the following sequences

1. 1, 3, 5, 7, 9, 11, ___

1, 3, 5, 7, 9, 11,___(get the difference between each two close numbers)

$\Rightarrow$There is an increase in the numbers by 2

2. 45, 41, 37, 33, 29 (there is a decrease in the numbers by 4)

=33-4

=29

Activity

Complete the sequences below.

1. 4, 6, 8, 10,____, 14_____.
2. 3, 6, 9, 12,____, 18, _____
3. 5, 10, 15, 20, 25, ____
4. 80, 74, 68, 62,____, _____
5. What are the next two numbers in the sequence? 21, 18, 15, 12,____, ____

Factors and Multiples.

MULTIPLES

- A multiple is a product of two number.
- Multiples are got by multiplying a given number by a set of counting numbers.
- The first multiple of a number is itself.

Examples

1. Multiples of 1

$\rightarrow$ The product of 1 and any other number is that very number i.e.

1x1=1,

2x1=2,

3x1=3,

4x1=4 and so on.

M_1= {1, 2, 3, 4, 5, 6, 7, 8,}

2. Multiples of 2→the double rule i.e. doubling counting numbers

In table 1, we saw 2x1, therefore when it comes to table 2 it becomes 1x2 which is the same product.

1x2=2(double 1)
2x2=4(double 2)
3x2=6(double 3)
4x2=8(double 4)
5x2=10(double 5)
6x2=12(double 6)
7x2=14(double 7)
8x2=16(double 8)
9x2=18(double 9)
M_2= {2, 4, 6, 8, 10, 12, 14, 16, 18, 20 …}

3. Multiples of 3→(repeated addition of 3)

We have seen 1x3 and 2x3 in tables 1 and 2

3x3=9
4x3=12
5x3=15
6x3=18
7x3=21
8x3=24
9x3=27
10x3=30
M_3 = {3, 6, 9, 12, 15, 18, 21 …}

4. What is the 7^{th} multiple of 8
   → 7 x 8
   = 56

Activity.

1. List the first 12 multiples of;
   a) 5
   b) 6
   c) 7
   d) 8
2. How many multiples of 10 are below 100?
3. Find the sum of the first three multiples of 12
4. What is the 11^{th} multiple of 9?