"I have **ARITHMETIC SEQUENCE."**

"Who has **<u>a sequence made by *multiplying* by some value each time?</u>**

Example:
2, 4, 8, 16, 32, 64, 128…
*Each number is 2 times the number before it

"I have **GEOMETRIC SEQUENCE."**

"Who has **<u>adding zero to a number leaves it unchanged?"</u>**

Example:
a+0=a or 0+a=a

"I have **ADDITIVE IDENTITY PROPERTY."**

"Who has **<u>what you add to a number to get to zero?</u>**

Example:
-5 + **5** = 0.
5 + **(-5)** = 0

"I have **ADDITIVE INVERSE PROPERTY."**

"Who has **<u>the property which allows you to add or multiply regardless of where parentheses are placed in an equation</u>?"**

Example:

$(6 + 3) + 4 = 6 + (3 + 4)$

"I have **ASSOCIATIVE PROPERTY."**

"Who has **<u>the property which leaves a number unchanged whenever it is multiplied by 1</u>?"**

Example:

$a \times 1 = 1$

"I have **MULTIPLICATIVE IDENTITY PROPERTY."**

"Who has **<u>the product of zero and any number is always zero</u>?"**

Example: $6 \times 0 = 0$

"I have **MULTIPLICATIVE PROPERTY OF ZERO."**

"Who has **<u>the law which states that multiplying a number by a group of numbers added together is the same as doing each multiplication separately</u>?"**

Example:

$3 \cdot (2 + 4) = 3 \cdot 2 + 3 \cdot 4$

"I have **DISTRIBUTIVE PROPERTY."**

"Who has **<u>a way to represent that two things are the same, using mathematical symbols, such as an equal sign (=)?"</u>**

Example:

$7+2 = 10-1$

"I have **EQUATION."**

"Who has **<u>numbers, symbols, and operators (such as + and ·) grouped together that show the value of something?</u>**

Example:

$X = 2 \cdot 3$

"I have **EXPRESSION.**"

"Who has **a symbol for a number we don't know yet. It is usually a letter like x or y?**

Example:

x + 2 = 6

"I have **VARIABLE.**"

"Who has **something that can be either a single number, a variable, or numbers and variables multiplied together?"**

Example:

4x - **7** = **5**

"I have **TERM.**"

"Who has **a fixed value, which can be a number on its own, or sometimes a letter such as a, b or c to stand for a fixed number?"**

Example:

x + **5** = **9**

"I have **CONSTANT.**"

"Who has **<u>something which says that two values are not equal?"</u>**

Examples:

$a \neq b$ says that a is ***not equal*** to b

$a < b$ says that a is ***less than*** b

$a > b$ says that a is ***greater than*** b

"I have **INEQUALITY.**"

"Who has **<u>terms whose variables (and their exponents, such as the 2 in x^2) are the same.</u>**

Examples:

$\mathbf{7x} + \mathbf{2x}$

$\mathbf{4x^2} + 7x^2$

"I have **LIKE TERM."**

"Who has **a special relationship between values where each *input* value gives back exactly one *output* value?"**
(It is often written as "f(x)" where x is the value you give it)

Example:
f(x) = x/2
* f(2) = 1, * f(16) = 8, * f(-10) = -5

"I have **FUNCTIONS."**

"Who has **a systematic listing of results already worked out?"**

"I have **TABLE OF VALUES."**

"Who has **all the values that go into a function?"**

Example:
$f(x) = x^2$
x = **{1,2,3,...}**

"I have **DOMAIN.**"

"Who has **<u>the set of all output values</u>?**"

Example:

If $f(x) = x^2$ and $x = \{1,2,3,...\}$, then

$f(1) =$ **1;**

$f(2) =$ **4;**

$f(3) =$ **9**

"I have **RANGE.**"

"Who has **<u>a variable whose value depends on the values of one or more independent variables</u>**?"

Examples:

$\boldsymbol{p} = 4q$

$\boldsymbol{z} = 3x^2 - 2y^3$

"I have **DEPENDENT VARIABLE.**"

"Who has **<u>a variable in an equation, whose values make up the domain?" (its value can be freely chosen, regardless the values of any other variable</u>**

Example:

$y = 7\boldsymbol{x} + 5$

"I have **INDEPENDENT VARIABLE."**

"Who has **equations that involve many steps to find the solution?"**

Example:

$5x - 6 = 9$

Step 1: Add 6 to both sides: $5x = 15$

Step 2: Divide both sides by 5: $x = 3$

"I have **MULTISTEP EQUATIONS."**

"Who has **a sequence made by *adding* some value each time?"**

Example:

1, 4, 7, 10, 13, 16, 19, 22, 25...

(each number is 3 larger than the number before it)