Math Symbols

<table>
<thead>
<tr>
<th>+</th>
<th>−</th>
<th>×</th>
<th>÷</th>
<th>=</th>
</tr>
</thead>
<tbody>
<tr>
<td>plus</td>
<td>minus</td>
<td>times</td>
<td>divided by</td>
<td>equals</td>
</tr>
<tr>
<td>sum of</td>
<td>difference of</td>
<td>product of</td>
<td>quotient of</td>
<td>is equal to</td>
</tr>
<tr>
<td>added to</td>
<td>subtracted from</td>
<td>multiplied by</td>
<td>over</td>
<td>the total...is</td>
</tr>
<tr>
<td>more than</td>
<td>less than</td>
<td>twice</td>
<td>per</td>
<td>the same as</td>
</tr>
<tr>
<td>increased by</td>
<td>decreased by</td>
<td>doubled, tripled, etc…</td>
<td>into</td>
<td></td>
</tr>
<tr>
<td>greater than</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Others Math Symbols

“is less than”  
“is less than or equal to”  
“is greater than”  
“is greater than or equal to”  
“squared”  
“cubed”  
“a number”, “a value”, etc

Examples:

- \( n^2 \) for “squared”
- \( n^3 \) for “cubed”
- \( x \) for “a number”, “a value”, etc

**IMPORTANT!!!**
Always reverse the order for any statements that have “less than” or “subtracted from”.

“A number less than five” would translate to “5 – n” or

“10 subtracted from a number” would translate to “n – 10”

The word “total” means add all the values and set equal to.

“The total of ten, twenty and a number is sixty” would translate to “10 + 20 + n = 60”.

The phrase “greater than” differs from the phrase “is greater than” where “greater than” represents adding some value(s) and the phrase “is greater than” represents an inequality. The same goes for “less than” phrases.

“Six greater than five” would translate to “6 + 5”

Whereas

“A number is greater than four” would translate to “x > 4”.
EXAMPLE

It is helpful to translate the words into symbols first.

Twice a number less than four is equal to six times a number plus five.

\[ 2 \quad n \quad - \quad 4 \quad = \quad 6 \times n \quad + \quad 5 \]

**REVERSE THE ORDER WHERE THERE IS A “LESS THAN”**

So, we can translate this into the equation \( 4 - 2n = 6n + 5 \)

**Note:**

The one thing to be clear about is “and” has no direct translation. We might have used the phrase “two and three is five” to mean \( 2 + 3 = 5 \). However, “and” is used to link two items and depending on the word in front, “and” will be replace by the appropriate symbol.

**For example:**

<table>
<thead>
<tr>
<th>Sum of 2 and a number</th>
<th>Difference of 4 and a number</th>
</tr>
</thead>
<tbody>
<tr>
<td>( 2 + x )</td>
<td>( 4 - x )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product of 6 and a number</th>
<th>Quotient of a number and ten</th>
</tr>
</thead>
<tbody>
<tr>
<td>( 6x )</td>
<td>( n \div 10 )</td>
</tr>
</tbody>
</table>

**NOW TRY SOME ON YOUR OWN...**

1) If a number is increased by the product of the number and ten, the result is the number squared plus five.

\[ n \quad + \quad (n \times 10) \quad = \quad n^2 \quad + \quad 5 \]

**Note:**

When there is a product of more than one item, parenthesis is used.

For example: Seven times the sum of a number and four translates to \( 7(x + 4) \)

2) The difference of six and three times the sum of five and a number is nine less than the number.

**Answers:**

1) \( x + 10x = x^2 + 5 \),

2) \( 6 - 3(5 + x) = x - 9 \)