Place value

The **place of a digit** in a number gives the **value** of the number.

In the number above:

The **5** is in the **Hundred Thousands** position, its value is therefore **500 000**

The **3** is in the **Ten Thousands** position, its value is therefore **30 000**

The **8** is in the **Thousands position**, its value is therefore **8 000**

The **6** is in the **Hundreds position**, its value is therefore **600**

The **2** is in the **Tens position**, its value is therefore **20**

The **9** is in the **Units position**, its value is therefore **9**

To proof that this is correct, we will check if the sum of all the components add up to 538 629:

500 000 + 30 000 + 8 000 + 600 + 20 + 9 = 538 629

Take these numbers and break them down as indicated:

7 893 = ☐ x 1 000 + ☐ x 100 + ☐ x 10 + ☐ x 1

19 328 = ☐ x 10 000 + ☐ x 1 000 + ☐ x 100 + ☐ x 10 + ☐ x 1

3 080 = ☐ x 1 000 + ☐ x 100 + ☐ x 10 + ☐ x 1

62 509 = ☐ x 10 000 + ☐ x 1 000 + ☐ x 100 + ☐ x 10 + ☐ x 1

203 074 = ☐ x 100 000 + ☐ x 1 000 + ☐ x 10 + ☐ x 1

Place value

Expanded Notation:

When a number is written in **Expanded Notation**, it is broken up using the **place value** of the digits in the number. (*Expanded means to extend something*)

If Ellie takes the number **134 678** and wants to write it in **Expanded Notation**, she needs to know the value of each digit.

The value of **1** is **100 000**

The value of **3** is **30 000**

The value of **4** is **4 000**

The value of **6** is **600**

The value of **7** is **70**

The value of **8** is **8**

Now Ellie can write the number 34 678 in Expanded Notation:

134 678 = 100 000 + 30 000 + 4 000 + 600 + 70 + 8

Write the following numbers is Expanded Notation:

21 457 = _____

8 986 = _____

3 020 = _____

543 981 = _____

401 092 = _____

789 = _____

900 174 = _____

Write the number represented by the each of the following:

1. 70 + 400 000 + 8 + 3 000 = _____
2. 900 + 4 000 + 200 000 + 6 = _____
3. 50 000 + 7 + 600 + 10 + 800 000 = _____
4. 8H + 3U + 5Th + 1 HTh = _____
5. 6T + 9TTh + 8 U + 50H = _____

MEMO:

Take the number and break it down as indicated:

7 893 = (7 x 1 000) + (8 x 100) + (9 x 10) + (3 x 1)

19 328 = (1 x 10 000) + (9 x 1 000) + (3 x 100) + (2 x 10) + (8 x 1)

3 080 = (3 x 1 000) + (0 x 100) + (8 x 10) + (0 x 1)

62 509 = (6 x 10 000) + (2 x 1 000) + (5 x 100) + (0 x 10) + (9 x 1)

203 074 = (2 x 100 000) + (3 x 1 000) + (7 x 10) + (4 x 1)

Write the following numbers is Expanded Notation:

21 457 = 20 000 + 1 000 + 400 + 50 + 7

8 986 = 8000 + 900 + 80 + 6

3 020 = 3000 + 0 + 20 + 0 (If you leave out the zero, the answer will still be correct.)

543 981 = 500 000 + 40 000 + 3 000 + 900 + 80 + 1

401 092 = 400 000 + 0 + 1 000 + 0 + 90 + 2

789 = 700 + 80 + 9

900 174 = 900 000 + 0 + 0 + 100 + 70 + 4

Write the number represented by the each of the following:

1. 70 + 400 000 + 8 + 3 000 = 403 078

2. 900 + 4 000 + 200 000 + 6 = 204 906

3. 50 000 + 7 + 600 + 10 + 800 000 = 850 617

4. 8H + 3U + 5Th + 1 HTh = 105 803

5. 6T + 9TTh + 8 U + 50H = 95 068