

Expanding Whole Numbers

Instructions: Write the following numbers in expanded form.

In **Expanded Form** using **exponential notation**, we write the numbers as a **sum of each digit's value**.

1. $45,972 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$$(4 \times \underline{\hspace{1cm}}) + (5 \times \underline{\hspace{1cm}}) + (9 \times \underline{\hspace{1cm}}) + (7 \times \underline{\hspace{1cm}}) + (2 \times \underline{\hspace{1cm}})$$

$$(\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10)$$

2. $857,638 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$$(8 \times \underline{\hspace{1cm}}) + (5 \times \underline{\hspace{1cm}}) + (7 \times \underline{\hspace{1cm}}) + (6 \times \underline{\hspace{1cm}}) + (3 \times \underline{\hspace{1cm}}) + (8 \times \underline{\hspace{1cm}})$$

$$(\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10)$$

3. $910,467 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$$(9 \times \underline{\hspace{1cm}}) + (1 \times \underline{\hspace{1cm}}) + (0 \times \underline{\hspace{1cm}}) + (4 \times \underline{\hspace{1cm}}) + (6 \times \underline{\hspace{1cm}}) + (7 \times \underline{\hspace{1cm}})$$

$$(\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10)$$

4. $5,345,892 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$$(5 \times \underline{\hspace{1cm}}) + (3 \times \underline{\hspace{1cm}}) + (4 \times \underline{\hspace{1cm}}) + (5 \times \underline{\hspace{1cm}}) + (8 \times \underline{\hspace{1cm}}) + (9 \times \underline{\hspace{1cm}}) + (2 \times \underline{\hspace{1cm}})$$

$$(\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10)$$

5. $1,234,234 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$$(1 \times \underline{\hspace{1cm}}) + (2 \times \underline{\hspace{1cm}}) + (3 \times \underline{\hspace{1cm}}) + (4 \times \underline{\hspace{1cm}}) + (2 \times \underline{\hspace{1cm}}) + (3 \times \underline{\hspace{1cm}}) + (4 \times \underline{\hspace{1cm}})$$

$$(\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10) + (\underline{\hspace{1cm}} \times 10)$$