

10.7 Operations and Scientific Notation

Pick up Guided Notes
From Front Table

Learning Targets

- ★ • Re-write numbers with new/different powers of 10
- Add and Subtract
- Multiply and Divide

Rewriting Numbers with New Powers of 10

Scientific
Notation

27,000

NOT Scientific
Notation

Rewriting Numbers with New Powers of 10

Scientific
Notation

0.035

NOT Scientific
Notation

Rewriting Numbers with New Powers of 10

Scientific
Notation

NOT Scientific
Notation

$$7.6 \times 10^5 = \underline{\quad\quad\quad} \times 10^6$$

$$3.41 \times 10^8 = \underline{\quad\quad\quad} \times 10^7$$

$$4.8 \times 10^{-3} = \underline{\quad\quad\quad} \times 10^{-2}$$

$$5.2 \times 10^{-7} = \underline{\quad\quad\quad} \times 10^{-8}$$

NOW "Fix" these numbers. Adjust them so that they are correctly written in scientific notation.

$$87.6 \times 10^6$$

$$35.92 \times 10^8$$

$$47.81 \times 10^{-5}$$

$$96.38 \times 10^{-7}$$

Adding and Subtracting Numbers in Scientific Notation

If the powers of 10 are the **SAME**,
add or subtract the factors.

$$(3.2 \times 10^4) + (4.6 \times 10^4)$$

Adding and Subtracting Numbers in Scientific Notation

If the powers of 10 are the **SAME**,
add or subtract the factors.

$$7.2 \times 10^5 - 5.1 \times 10^5$$

Adding and Subtracting Numbers in Scientific Notation

If the powers of 10 are the **DIFFERENT**, first rewrite one of the numbers so it has the same power of 10 as the other number.

Adding and Subtracting Numbers in Scientific Notation

If the powers of 10 are the **DIFFERENT**, first rewrite one of the numbers so it has the same power of 10 as the other number.

$$(5.81 \times 10^8) + (2.04 \times 10^7)$$

Adding and Subtracting Numbers in Scientific Notation

If the powers of 10 are the **DIFFERENT**, first rewrite one of the numbers so it has the same power of 10 as the other number.

$$(3.5 \times 10^{-2}) - (6.6 \times 10^{-3})$$

Adding and Subtracting Numbers in Scientific Notation

Multiple Steps!

$$(8.3 \times 10^6) + (9.7 \times 10^8)$$