

M9 - 2.2 - Scientific Notation Notes

Check on Calculator/Reverse

Write in Standard Form (Normal)

$5.0 \times 10^2 = 500.$ Move the Decimal 2 to the Right $10^2 = 100$

$8.43 \times 10^5 = 843000.$ Move the Decimal 5 to the Right $10^5 = 100000$

Positive Exponent : Decimal to Right

$243. \times 10^{-4} = 0.0243$ Move the Decimal 4 to the Left $10^{-4} = 0.0001$

Negative Exponent : Decimal to Left

Write in Scientific Notation

#.# # ... $\times 10^{\#}$ 1 # (1 – 9) in front of decimal

$9624. = 9.624 \times 10^3$ Move the Decimal 3 to the Left $10^3 = 1000$

$5000000. = 5.0 \times 10^6$ Move the Decimal 6 to the Left $10^6 = 1000000$

$0.000000367 = 3.67 \times 10^{-7}$ Move the Decimal 7 to the Right $10^{-7} = 0.0000001$

Write in Scientific Notation

$0.00367 \times 10^5 = 367. = 3.67 \times 10^2$ Move the Decimal 5 to the Right
Write in Standard Form
Move the Decimal 2 to the Left

OR

$0.00367 \times 10^5 = 3.67 \times 10^2$ Move the Decimal 3 to the Right
Subtract 3 from Exponent

$5234. \times 10^{-2} = 52.34 = 5.234 \times 10^1$ Move the Decimal 2 to the Left
Write in Standard Form
Move the Decimal 1 to the Left

OR

$5234. \times 10^{-2} = 5.234 \times 10^1$ Move the Decimal 3 to the Left
Add 3 to Exponent

Decimal Right <-> Exponent Down Decimal Left <-> Exponent Up

$5 \times 10^0 = 5$ $10^0 = 1$