

Name : _____

Score : _____

Scientific Notation

Example: 1

Write 4.32215×10^5 in standard notation.

Here the exponent is 5. We should move the decimal point 5 places to the right.

$4.\overset{\curvearrowright}{3}\overset{\curvearrowright}{2}\overset{\curvearrowright}{2}\overset{\curvearrowright}{1}\overset{\curvearrowright}{5}$

$$4.32215 \times 10^5 = \mathbf{432,215}$$

Example: 2

Write 3.7×10^{-6} in standard notation.

Here the exponent is -6. We should move the decimal point 6 places to the left.

$0\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}3.7$

$$3.7 \times 10^{-6} = \mathbf{0.000037}$$

Express each number in standard notation.

1) 4.62×10^8 = _____

2) 1.2561×10^{-5} = _____

3) 9.082×10^{11} = _____

4) 5.4×10^{-7} = _____

5) 3.5624×10^{13} = _____

6) 7.5005×10^{-12} = _____

7) 1.28×10^8 = _____

8) 2.119×10^{-10} = _____

9) 8.0025×10^6 = _____

10) 3.1×10^{-9} = _____

Answer key

Example: 1

Write 4.32215×10^5 in standard notation.

Here the exponent is 5. We should move the decimal point 5 places to the right.

$$4.\overset{\curvearrowright}{3}\overset{\curvearrowright}{2}\overset{\curvearrowright}{2}\overset{\curvearrowright}{1}\overset{\curvearrowright}{5}$$

$$4.32215 \times 10^5 = \mathbf{432,215}$$

Example: 2

Write 3.7×10^{-6} in standard notation.

Here the exponent is -6. We should move the decimal point 6 places to the left.

$$0\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{0}\overset{\curvearrowleft}{3}.7$$

$$3.7 \times 10^{-6} = \mathbf{0.000037}$$

Express each number in standard notation.

1) $4.62 \times 10^8 = \underline{\mathbf{462,000,000}}$

2) $1.2561 \times 10^{-5} = \underline{\mathbf{0.000012561}}$

3) $9.082 \times 10^{11} = \underline{\mathbf{908,200,000,000}}$

4) $5.4 \times 10^{-7} = \underline{\mathbf{0.00000054}}$

5) $3.5624 \times 10^{13} = \underline{\mathbf{35,624,000,000,000}}$

6) $7.5005 \times 10^{-12} = \underline{\mathbf{0.0000000000075005}}$

7) $1.28 \times 10^8 = \underline{\mathbf{128,000,000}}$

8) $2.119 \times 10^{-10} = \underline{\mathbf{0.0000000002119}}$

9) $8.0025 \times 10^6 = \underline{\mathbf{8,002,500}}$

10) $3.1 \times 10^{-9} = \underline{\mathbf{0.0000000031}}$