

Standard form

Facts

Standard form, or standard index form, is a system of writing numbers which can be particularly useful for dealing with very big or very small numbers.

Standard form is written in the form $a \times 10^n$ where a is a number bigger than or equal to 1 but less than 10 and n is any positive or negative whole number

What is Standard Form? www.cazoommaths.com

Always between 1 and 10 (not including 10)

1.9 $\times 10^7$ = 19000000

28.3 $\times 10^{13}$ → Not in standard form

0.283 $\times 10^{15}$ → Not in standard form

2.83 $\times 10^{14}$ → In standard form

Always between 1 and 10 (not including 10) = 2830000000000000

Convert to Standard Form

Move the decimal point until there is one digit to the left of the decimal point.

Exponent goes **up** ← Decimal point moves **left** • Decimal point moves **right** → Exponent goes **down**

Examples:

$$156000. = 1.56 \times 10^5$$

Move decimal point 5 places left,
exponent goes up by 5

$$0.0000053 = 5.3 \times 10^{-6}$$

Move decimal point 6 places right,
exponent goes down by 6