

## 1.8 Scientific Notation

Warm up: Perform the following operations

1)  $14 \div 10 =$                       4)  $127 \times 10 =$

2)  $482 \div 1000 =$                       5)  $48023 \times 10^4 =$

3)  $662 \div 10^2 =$

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## 1.8 Scientific Notation

When numbers get really Big or really small it is inconvenient to write out all of the zeros.

For this reason we use *Scientific Notation*.

A positive number in **scientific notation** is in the form:

**$a \times 10^n$**  where  $1 \leq a < 10$ ; and n is an integer.

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Ex 1: Express in scientific notation  **$a \times 10^n$**   $1 \leq a < 10$

**POSITIVE EXPONENT**    **NEGATIVE EXPONENT**

a) 5600

b) 0.00042

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Ex 2: Write the following numbers in scientific notation:

1) 360 =                      6) 1226000 =

2) 0.4 =                      7) 0.025 =

3) 7523 =                      8) 0.000045 =

4) 45000 =                      9) 81 =

5) 235 =

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Examples 1:

$42\,000\,000\,000\,000 \times 72\,000\,000\,000$

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Examples 2:

$42\,000\,000\,000 \times 0.000\,000\,000\,21$

7

Examples 3:

$125\,000\,000\,000 \div 0.000\,000\,000\,25$

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Examples 4:

$42\,000\,000\,000 \div 0.000\,000\,000\,126$

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Practice:  
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