**arcsh**

*Function of calculating arc hyperbolic sine of real or complex number.*

**Syntax:**

*y* **= arcsh***(x);*

**Arguments:**

*x* – input value.

**Description:**

*arcsh(x)* – function of calculating arc hyperbolic sine (inverse hyperbolic sine) of real or complex number:

).

Input value can be both real and complex number.

Input value can be assigned either as a preliminarily determined variable, or as a constant number.

A complex number shall be assigned by the expression *a*+*b*i, where *a* and *b* are real and virtual number parts, accordingly.

**Result:**

*y* – arc hyperbolic sine of input value *x*.

**Example 1:**

*Arc hyperbolic sine* *of real number*

|  |  |
| --- | --- |
|  | **const** x = 5;  y = **arcsh**(x); |

As a result, variable *y* will be assigned a value 2.3124383.

**Example 2:**

*Arc hyperbolic sine* *of complex number*

|  |  |
| --- | --- |
|  | y = **arcsh**(3+4i); |

As a result, variable *y* will be assigned a value 2.299914+0.91761685i.