

Quadratic Equation Solver

Solve roots for $ax^2+bx+c=0$

Step	Procedure	Enter	Press	Display
1	Initialize		C'	
2	Enter a	a	A	a
2	Enter b	b	B	b
3	Enter c	c	C	c
4	Calculate Roots		A'	
5	List/Print Real Root 1		D	Real Root 1
6	List/Print Imag Root 1		D'	Imag Root 1
7	List/Print Real Root 2		E	Real Root 2
8	List/Print Imag Root 2		D'	Imag Root 2

Example 1

Solve for $4x^2+2x-2=0$

<u>Enter/Procedure</u>	<u>Press</u>	<u>Display</u>	<u>Printed</u>
<i>Initialize</i>	C'	0.	0.
4	A	4.	4. A
2	B	2.	2. B
2	+/-	-2.	-2 C
<i>Calculate Roots</i>	A'	0.	
<i>List/Print RRT1</i>	D	0.5	0.5 RRT1
<i>List/Print IMG RT1</i>	D'	0.	0. IMG1
<i>List/Print RRT2</i>	E	-1.	-1. RRT2
<i>List/Print IMG RT2</i>	E'	0.	0. IMG2

Root 1 = 0.5

Root 2 = -1.

Note: Because IMG1 and IMG2 are equal to 0, there are no Imaginary roots, only real roots.

Example 2

Solve for $x^2 + 2x + 17 = 0$

<u>Enter/Procedure</u>	<u>Press</u>	<u>Display</u>	<u>Printed</u>
<i>Initialize</i>	C'	0.	0.
1	A	1.	1. A
2	B	2.	2. B
17	C	17.	17. C
<i>Calculate Roots</i>	A'	0.	
List/Print RRT1	D	-1.	-1. RRT1
List/Print IMG RT1	D'	4.	4. IMG1
List/Print RRT2	E	-1.	-1. RRT2
List/Print IMG RT2	E'	-4.	-4. IMG2

Root 1 = $-1 + 4i$

Root 2 = $-1 - 4i$