The Casio FX 115ES Calculator and Exponents



SHIFT

SQUARING AND CUBING

ARROWS

HIGHER POWERS

Raising a number to a power can be done easily, however the buttons used differ depending on the power:

* Squaring: input the number and then x2 =, 42 is found by inputting: 4 x2 =

**You screen will look like: 42 16**

* Cubing or raising a number to the third power: input the number and then SHIFT x2 =, 43 is found by inputting: 4 SHIFT x2 =

You screen will look like: 43 64

* Raising a number to a power greater than 3: input the number and then $x^{∎}$(the power desired) =, (-3)4 is found by inputting: ((-)3) $x^{∎}$4 =

You screen will look like: (-3)4 81

**Note:** if you did not put the -3 in parentheses, the orders of operation raises the 3 to the fourth power and then makes it negative, hence the answer will be -81.

**Be careful** that you always put negative numbers in parentheses when raising them to powers.

* You can also take values to fractional exponents: 82/3 can be found by inputting:

 8 $x^{∎}$ $\frac{∎}{}$ 2 down arrow 3 =

You screen will look like: $8^{\frac{2}{3}}$ 4

The Casio FX 115ES Calculator and Roots



SHIFT

HIGHER ROOTS

SQUARE AND CUBE ROOTS

ARROWS

Taking a root can be done easily, however the buttons used differ depending on the root:

* **Square root**: $\sqrt{∎}$ the number=, $\sqrt{36}$ is found by inputting: $\sqrt{∎}$ 36=

You screen will look like: $\sqrt{36}$ 6

* **Cube root**: SHIFT $\sqrt{∎}$ the number=, $\sqrt[3]{64}$ is found by inputting: SHIFT $\sqrt{∎}$ 64=

You screen will look like: $\sqrt[3]{64}$ 4

* **Taking a root higher than a cube root**: SHIFT $x^{∎}$ (the power desired) right arrow (the value) =,

$\sqrt[4]{1296}$ is found by inputting: SHIFT $x^{∎}$ 4 right arrow 1296 =

You screen will look like: $\sqrt[4]{1296}$ 6

Since the root symbol works like a grouping symbol, there is no need to use parentheses for negative values. $\sqrt[5]{-32}$ is found by inputting: : SHIFT $x^{∎}$ 5 right arrow -32 =

You screen will look like: $\sqrt[5]{-32}$ -2

Remember that you can’t take an even root of a negative number.

If you do you will get an error message.