

Basic Radical

We know when students are just beginning their study of algebra, the basic concepts can be difficult to grasp. These activities are written for teachers to use in their basic algebra classes.

When you find other helpful exercises, add these to your own eActivities.

Good exercises encourage students!

This file includes eActivities on:

Graph $y=\sqrt{x}$ – Change the equation and watch how it changes the graph.

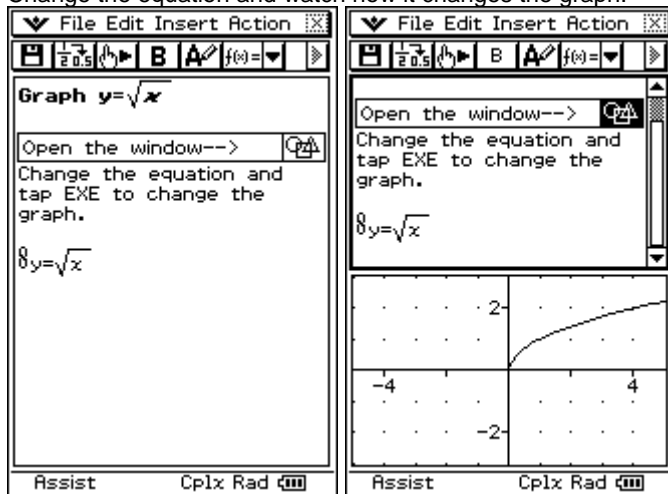
Irrational Number – Simply simplify the irrational numbers.

Radical $+x/-$ – The Verify application will help you manipulate radicals correctly.

Solve Radical Eqn – See how it is done and then try your own!

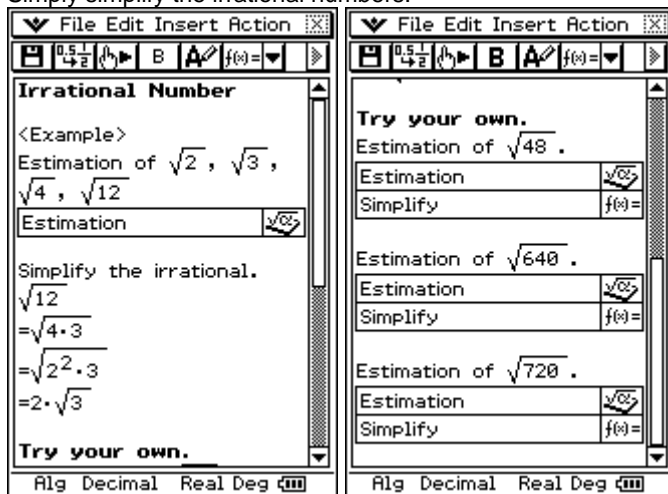
Graph $y=\sqrt{x}$

Change the equation and watch how it changes the graph.



Irrational Number

Simply simplify the irrational numbers.



Radical + - x /

The Verify application will help you manipulate radicals correctly.

The first screenshot shows the 'Radical +-x÷' section with an example of multiplying two binomials with radicals:

$$\begin{aligned} & (\sqrt{6}-1) \cdot (\sqrt{6}+2) \\ & \quad \quad \quad \sqrt{2} \\ & = \frac{\sqrt{6} \cdot 6 + 2 \cdot \sqrt{6} - \sqrt{6} - 2}{\sqrt{2}} \\ & = \frac{6 + \sqrt{6} - 2}{\sqrt{2}} \\ & = \frac{4 + \sqrt{6}}{\sqrt{2}} \\ & = \frac{2 \cdot \sqrt{2^2} + \sqrt{6}}{\sqrt{2}} \end{aligned}$$

The second screenshot shows the 'Try your own.' section with three practice problems:

$$\begin{aligned} & (\sqrt{6}+1) \cdot (\sqrt{6}-2) = ? \\ & \quad \quad \quad \sqrt{2} \\ & \text{Ex-1} \quad \quad \quad f(x) = \\ & (\sqrt{3}+2) \cdot (\sqrt{3}-1) = ? \\ & \quad \quad \quad \sqrt{2} \\ & \text{Ex-2} \quad \quad \quad f(x) = \\ & (\sqrt{12}+2) \cdot (\sqrt{16}-1) = ? \\ & \quad \quad \quad \sqrt{4} \\ & \text{Ex-3} \quad \quad \quad f(x) = \end{aligned}$$

Solve Radical Equation

See how it is done and then try your own!

The first screenshot shows the 'Solve Radical Eqn' section with the equation $\sqrt{x+5} = x$ and the solution $x = \frac{1+\sqrt{21}}{2}$.

The second screenshot shows the 'Edit Action Interactive' section with the steps to solve the equation:

$$\begin{aligned} & \sqrt{x+5} = x \\ & (\text{ans})^2 \quad \quad \quad \sqrt{x+5} = x \\ & \quad \quad \quad \quad \quad \quad \quad x+5 = x^2 \\ & \text{ans} - x^2 - 5 \\ & \quad \quad \quad \quad \quad \quad \quad -x^2 + x = -5 \\ & \text{ans} * (-1) \\ & \quad \quad \quad \quad \quad \quad \quad x^2 - x = 5 \\ & \text{ans} + 1/4 \\ & \quad \quad \quad \quad \quad \quad \quad x^2 - x + \frac{1}{4} = \frac{21}{4} \\ & \text{factor(ans)} \\ & \quad \quad \quad \quad \quad \quad \quad \frac{(2 \cdot x - 1)^2}{4} = \frac{3 \cdot 7}{2^2} \end{aligned}$$

The third screenshot shows the 'Try your own.' section with three practice problems:

$$\begin{aligned} & \text{Solve } \sqrt{x-2} = -x+3. \\ & \text{Solve } \sqrt{x-2} = -x-3. \\ & \text{Solve } \sqrt{x+3} - 3x = -x+1. \end{aligned}$$