

$x = \sqrt[3]{-2x^2 + \frac{1}{2}}$	$x^3 + 2x^2 = \frac{1}{2}$
$2x^2 = \frac{1}{2} - x^3$	$x = \frac{\frac{1}{2}}{x^2 + 2x}$
$x^3 + 2x^2 = \frac{1}{2}$	$x^2 = \frac{\frac{1}{2} - x^3}{2}$
$x^3 + 2x^2 = \frac{1}{2}$	$x^2(x + 2) = \frac{1}{2}$
$x^3 = -2x^2 + \frac{1}{2}$	$x(x^2 + 2x) = \frac{1}{2}$
$x = \sqrt{\frac{\frac{1}{2} - x^3}{2}}$	$x^3 + 2x^2 = \frac{1}{2}$
$x = \sqrt{\frac{\frac{1}{2}}{x + 2}}$	$x^2 = \frac{\frac{1}{2}}{x + 2}$

There are four different rearrangements of  $x^3 + 2x^2 - \frac{1}{2} = 0$  can you find each step.

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$x = \sqrt{\frac{\frac{1}{2} - x^3}{2}}$	$x^3 + 2x^2 = \frac{1}{2}$
$x = \sqrt{\frac{\frac{1}{2}}{x + 2}}$	$x^2 = \frac{\frac{1}{2}}{x + 2}$

## Answers

1.

$$x^3 + 2x^2 - \frac{1}{2} = 0$$

$$x^3 + 2x^2 = \frac{1}{2}$$

$$x^3 = -2x^2 + \frac{1}{2}$$

$$x = \sqrt[3]{-2x^2 + \frac{1}{2}}$$

2.

$$x^3 + 2x^2 - \frac{1}{2} = 0$$

$$x^3 + 2x^2 = \frac{1}{2}$$

$$2x^2 = \frac{1}{2} - x^3$$

$$x^2 = \frac{\frac{1}{2} - x^3}{2}$$

$$x = \sqrt{\frac{\frac{1}{2} - x^3}{2}}$$

3.

$$x^3 + 2x^2 - \frac{1}{2} = 0$$

$$x^3 + 2x^2 = \frac{1}{2}$$

$$x^2(x + 2) = \frac{1}{2}$$

$$x^2 = \frac{\frac{1}{2}}{x + 2}$$

$$x = \sqrt{\frac{\frac{1}{2}}{x + 2}}$$

4.

$$x^3 + 2x^2 - \frac{1}{2} = 0$$

$$x^3 + 2x^2 = \frac{1}{2}$$

$$x(x^2 + 2x) = \frac{1}{2}$$

$$x = \frac{\frac{1}{2}}{x^2 + 2x}$$