Key

Unit 8 Day 9 Notes on Solving with Square Roots

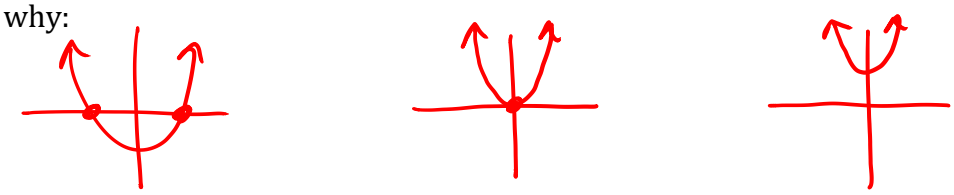
Used for only the Special case: $ax^2+c=0$ ← notice no "b" value ($b=0$)

EX: $3x^2-12=0$

Determining the number of solutions. Once you solve for x^2....

if $x^2>0$	if $x^2=0$	if $x^2<0$
2 solutions	1 solution	no solution

Here's why:



Here's our procedure:

1. Isolate the x^2
2. square root both sides
3. Don't forget about $\pm$

Let's Try:

1) $2x^2-32=0$

$2x^2=32$

$x^2=16$ (2 solutions)

$x=\pm 4$

2) $x^2-8=-8$

$x^2=0$ (1 solution)

$x=0$

3) $\sqrt{(x-3)^2}=\sqrt{16}$ (2 solutions)

$x-3=\pm 4$

$x-3=4$ → $x=7$

$x-3=-4$ → $x=-1$

4) $2x^2+10=32$

$2x^2=22$

$x^2=11$ (2 solutions)

$x=\pm\sqrt{11}\approx\pm 3.32$

5) Find the formula for the radius of a circle given its area, then use it to find the radius of a circle with area 10 m^2.

CIRCLE AREA

$A=\pi\cdot r^2$

(solve for r)

$\frac{A}{\pi}=r^2$

$\sqrt{\frac{A}{\pi}}=r$

$\sqrt{\frac{10}{\pi}}=r$

$1.78=r$ m