

⊙ I can solve an equation with a (binomial)<sup>2</sup>  
SOLVE

EX1]  $(x+1)^2 = 9$

$$\sqrt{(x+1)^2} = \sqrt{9}$$

$$x+1 = 3 \quad \leftarrow \pm 3 \quad x+1 = -3$$

$$\boxed{x=2}$$

$$\boxed{x=-4}$$

$$(x+1)(x+1) = 9$$

$$x^2 + 2x + 1 = 9$$

$$x^2 + 2x - 8 = 0$$

$$(x+4)(x-2)$$

$$x+4=0 \quad x-2=0$$

$$\boxed{x=-4} \quad \boxed{x=2}$$

same

EX2]  $3+4(x-2)^2 = 19$

$$3+4(x-2)^2 = 19$$

$$\frac{4(x-2)^2}{4} = \frac{16}{4}$$

$$(x-2)^2 = 4$$

$$\sqrt{(x-2)^2} = \sqrt{4}$$

$\leftarrow \rightarrow \pm 2$

$$x-2 = 2$$

$$+2 \quad +2$$

$$\boxed{x=4}$$

$$x-2 = -2$$

$$+2 \quad +2$$

$$\boxed{x=0}$$

$$3+4(x-2)(x-2) = 19$$

$$3+4(x^2-4x+4) = 19$$

$$3+4x^2-16x+16 = 19$$

$$19+4x^2-16x = 19$$

$$-19 \quad -19$$

$$4x^2-16x = 0$$

$$4x(x-4) = 0$$

$$4x=0 \quad x-4=0$$

$$\boxed{x=0} \quad \boxed{x=4}$$

EX3]  $-(x-5)^2 = 2$

$$\frac{-1(x-5)^2}{-1} = \frac{2}{-1}$$

$$(x-5)^2 = -2$$

$$\sqrt{(x-5)^2} = \sqrt{-2}$$

real  
↳ No Solution

EX4]  $(x+3)^2 = 32$

$$\sqrt{(x+3)^2} = \sqrt{32}$$

$$x+3 = \pm \sqrt{32}$$

$\wedge$   
4·8  
 $\wedge$   
4·2

$$x+3 = \pm 4\sqrt{2}$$

$$-3 \quad -3$$

$$\sqrt{-2+4\sqrt{2}}$$