ex: $\sqrt{x} = 5$ ← IF ODD THEN NO ±

$x^{\frac{1}{2}} = 5$

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

$x = 25$

ex: $x^2 = 9$ ← IF EVEN PUT ±

$x^{\frac{2}{1}} = 9$

$\left(x^{\frac{2}{1}}\right)^{\frac{1}{2}} = \pm 9^{\frac{1}{2}}$

$x = \pm\sqrt{9}$

$x = \pm 3$

5. $(x-4)^3 = 9$ ← 2 ← EVEN SO ±

$\left[(x-4)^{\frac{2}{3}}\right]^{\frac{3}{2}} = \pm 9^{\frac{3}{2}}$

$x-4 = \pm\left(9^{\frac{1}{2}}\right)^3$

$x-4 = \pm\left(\sqrt{9}\right)^3$

$x-4 = \pm 3^3$

$x-4 = \pm 27$

$x = 4 \pm 27$

(+) $x = 4+27$ $\quad x = 31$

(−) $x = 4-27$ $\quad x = -23$

6. $(x^2-5x+10)^{\frac{3}{2}} - 8 = 0$

$(x^2-5x+10)^{\frac{3}{2}} = 8$ ← 3 ← ODD, SO NO ±

$\left[(x^2-5x+10)^{\frac{3}{2}}\right]^{\frac{2}{3}} = 8^{\frac{2}{3}}$

$x^2-5x+10 = \left(8^{\frac{1}{3}}\right)^2$

$x^2-5x+10 = \left(\sqrt[3]{8}\right)^2$

$x^2-5x+10 = \left(\sqrt[3]{2\cdot 2\cdot 2}\right)^2$

$x^2-5x+10 = 2^2$

$x^2-5x+10 = 4$

$x^2-5x+10-4 = 0$

$x^2-5x+6 = 0$

$(x-2)(x-3) = 0$ PSD

$x-2=0 \quad x-3=0$

$x=2 \quad x=3$