Solving Equations with n^{th} Roots

Name _____

Date _____ Period _____

if n (index) is odd, then t has one real n^{th} root.

if n (index) is even and t (radicand) > 0, then t has two real n^{th} roots.

if n (index) is even and t (radicand) < 0, then t has no real n^{th} roots.

if t (radicand) $= 0$, then t has one real n^{th} root.

Solve the following equations

$5x^3 = -40$

$x^4 - 25 = 600$

$(x - 3)^3 - 18 = 46$

Solve the following equations

$(x + 4)^4 + 8 = 24$ $(x - 3)^3 + 2 = -25$ $(x + 1)^4 + 6 = 5$

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if n (index) is even and t (radicand) < 0, then t has no real n^{th} roots.

if t (radicand) $= 0$, then t has one real n^{th} root.