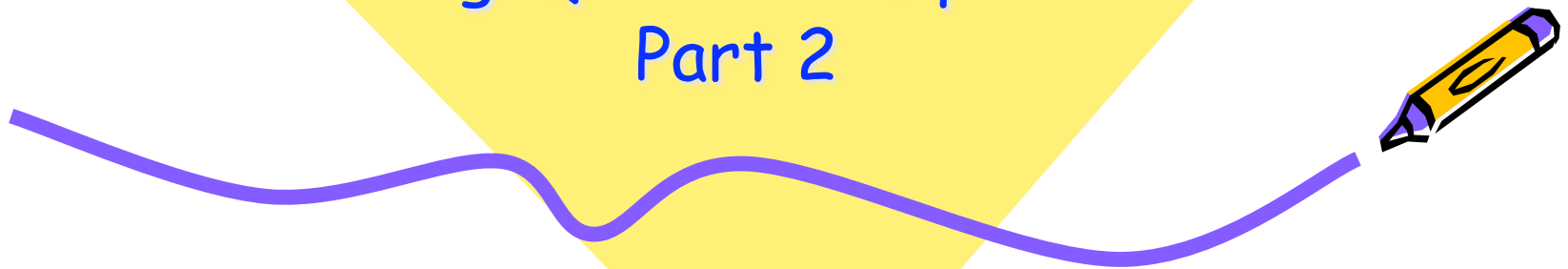




Ch 10.4

Solving Quadratic Equations: Part 2



Solving Quadratic Equations by Graphing

The solutions of a quadratic equation & the x-intercepts of its related quad. function are the same.

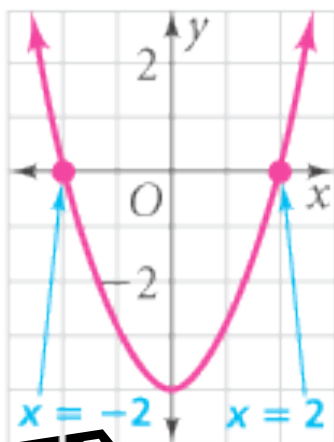
You can have 1, 2 or no solutions to quad. equations.

To find the solutions by graphing:

- Graph the function. The points where the parabola crosses the x-axis are the solutions.

a. $x^2 - 4 = 0$

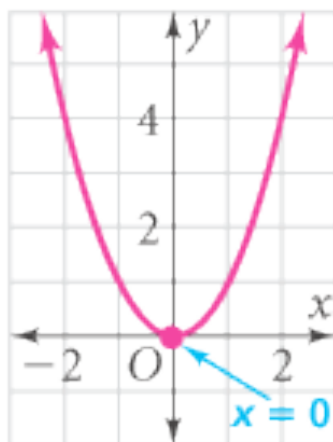
Graph $y = x^2 - 4$.



There are two solutions, ± 2 .

b. $x^2 = 0$

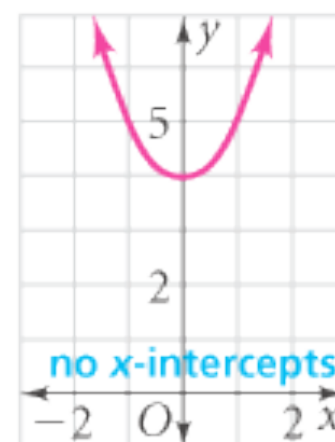
Graph $y = x^2$.



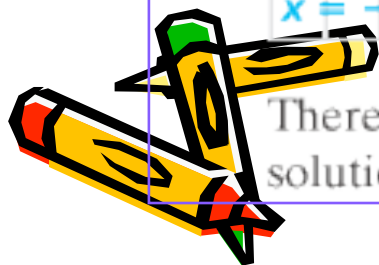
There is one solution, 0.

c. $x^2 + 4 = 0$

Graph $y = x^2 + 4$.

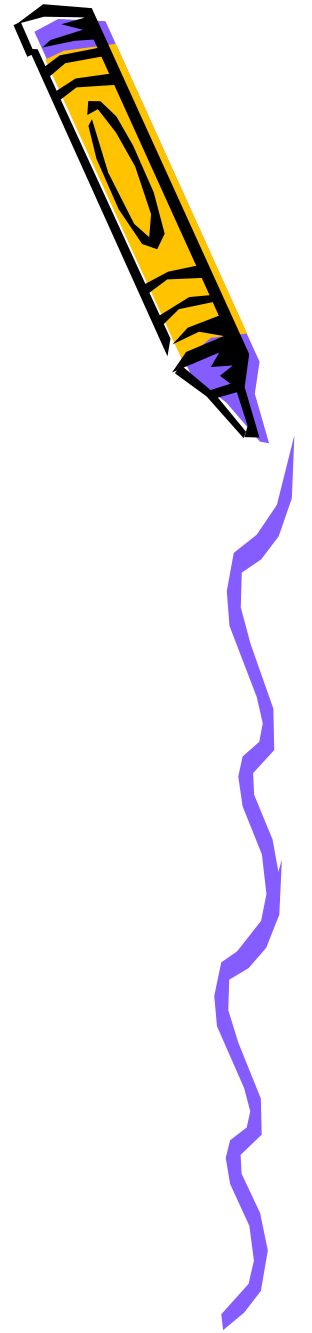


There is no solution.



Determining # of solutions

- If $a +$ & $c + =$ no solution
- If $a -$ & $c - =$ no solution
- If $a +$ & $c - =$ 2 solutions
- If $a -$ & $c + =$ 2 solutions
- If equations is $y = ax^2 = 1$ solution which is zero.



Try some

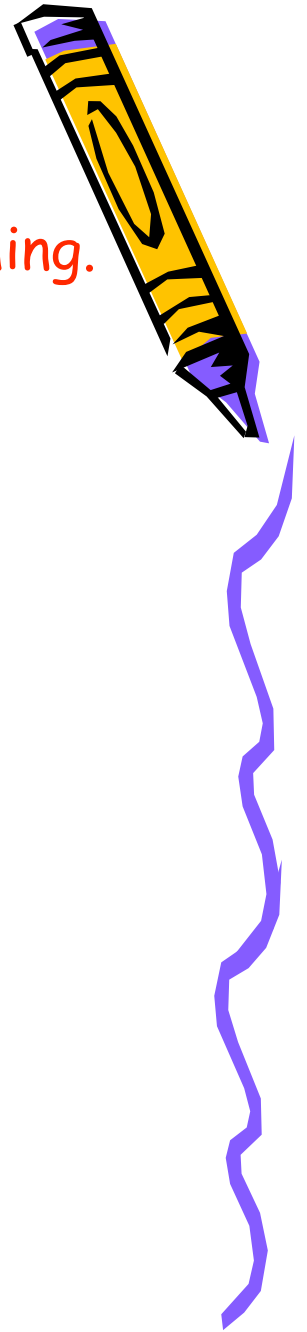
Solve (find the # of solutions and solution(s)) by Graphing.

1. $x^2 - 1 = 0$

2. $x^2 - 9 = 0$

3. $x^2 - 16 = -16$

4. $2x^2 + 4 = 0$



Try some more

Solve (find the # of solutions and solution(s)) by Graphing.

1. $x^2 = 16$

2. $x^2 - 144 = 0$

3. $3x^2 - 27 = 0$

4. $x^2 + 49 = 0$

