Vertex Form of a Quadratic Function

$$y = a(x - h)^2 + k$$
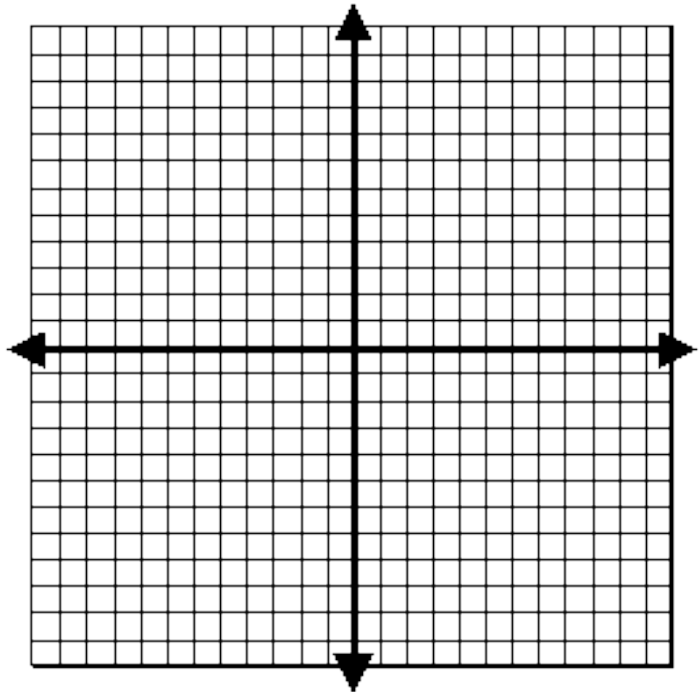
Special Situations:
- A=1, usually the "1" is not written.
    - Ex: $y = 1(x - 5)^2 - 6$ is usually written as _____
- H=0 and k=0. If either term is zero, that term is usually omitted
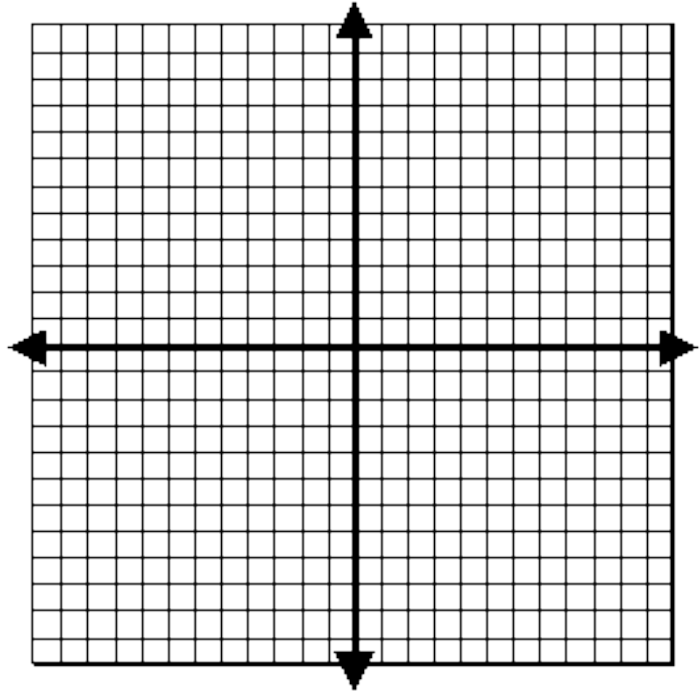   - Ex: $y = 1(x - 5)^2 + 0$ is usually written as _____

Transformations:
1) **"k" →** _____

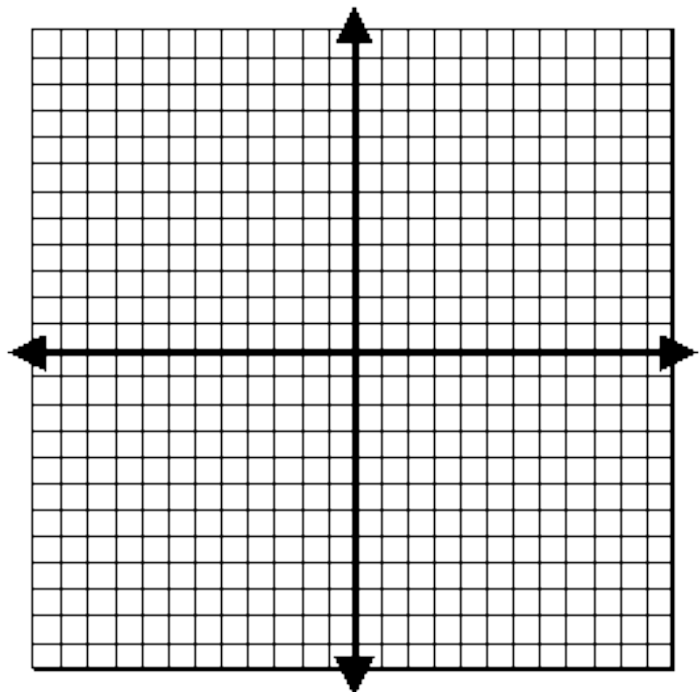Example #1: Graph $y = x^2 + 5$ using transformations.

2) "h" → _____

Example #2: Graph $y = (x - 4)^2$ using transformations.
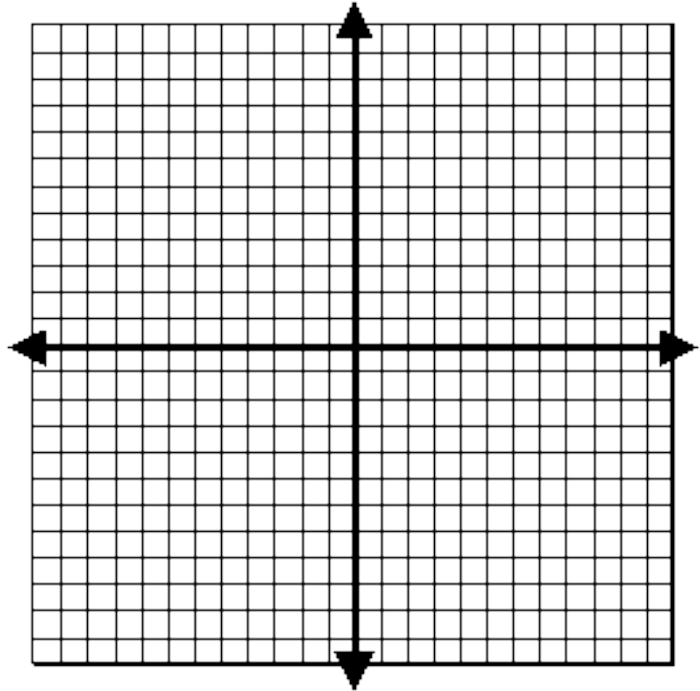
Example #3: Graph $y = (x + 1)^2 - 4$ using transformations.

3) "a" → _____

Example #4: Graph $y = -2x^2$ using transformations.

Example #5: Graph $y = 3(x + 5)^2 - 10$ using transformations.