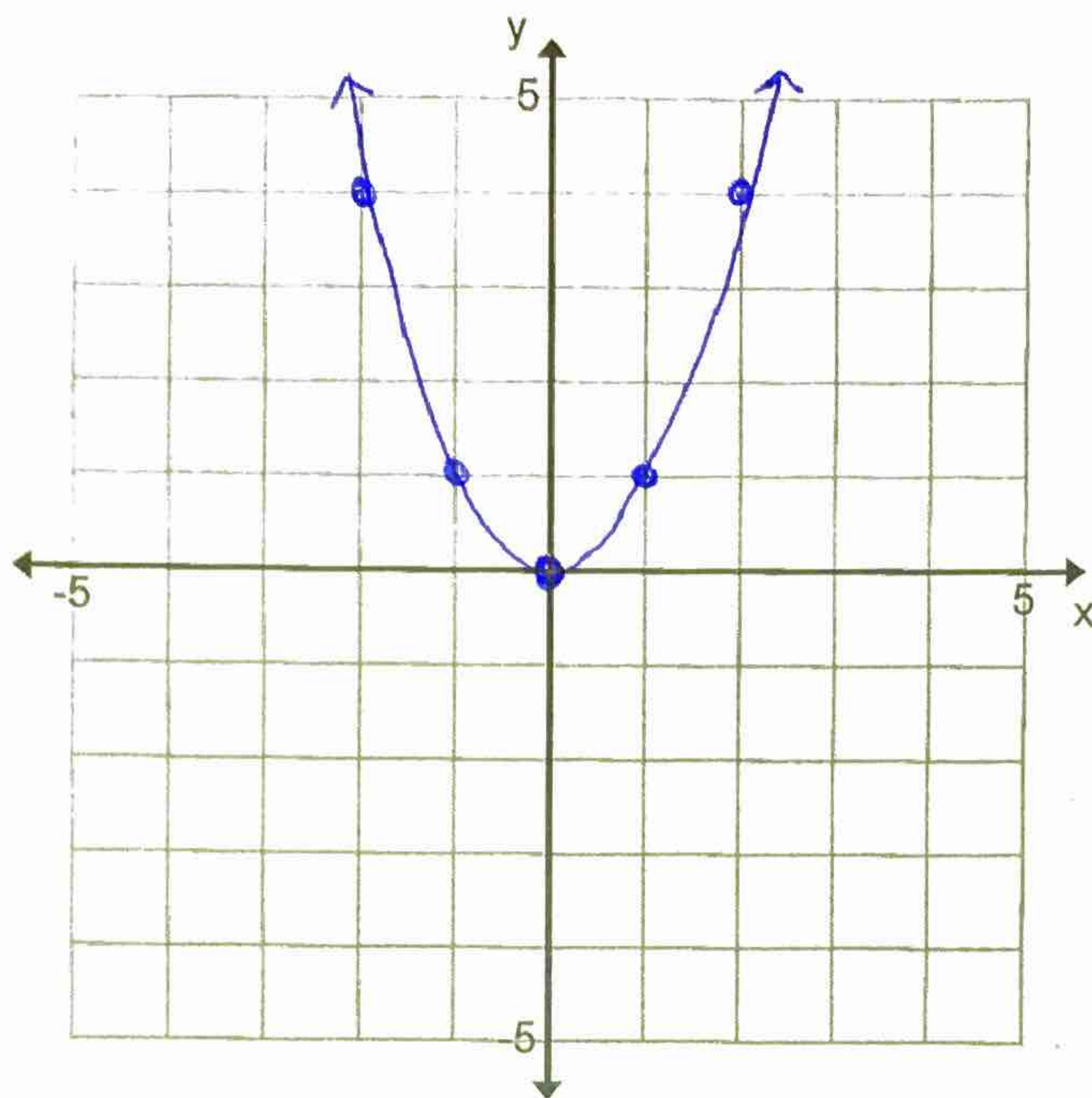


Parabolas Graphing Day 1

Parent Function $y = x^2$



x	y
-2	4
-1	1
0	0
1	1
2	4

Transformation Rules $y = a(x-h)^2 + k$

a: vertical dilation

→ multiply y-values

→ if a is negative, reflect over x-axis

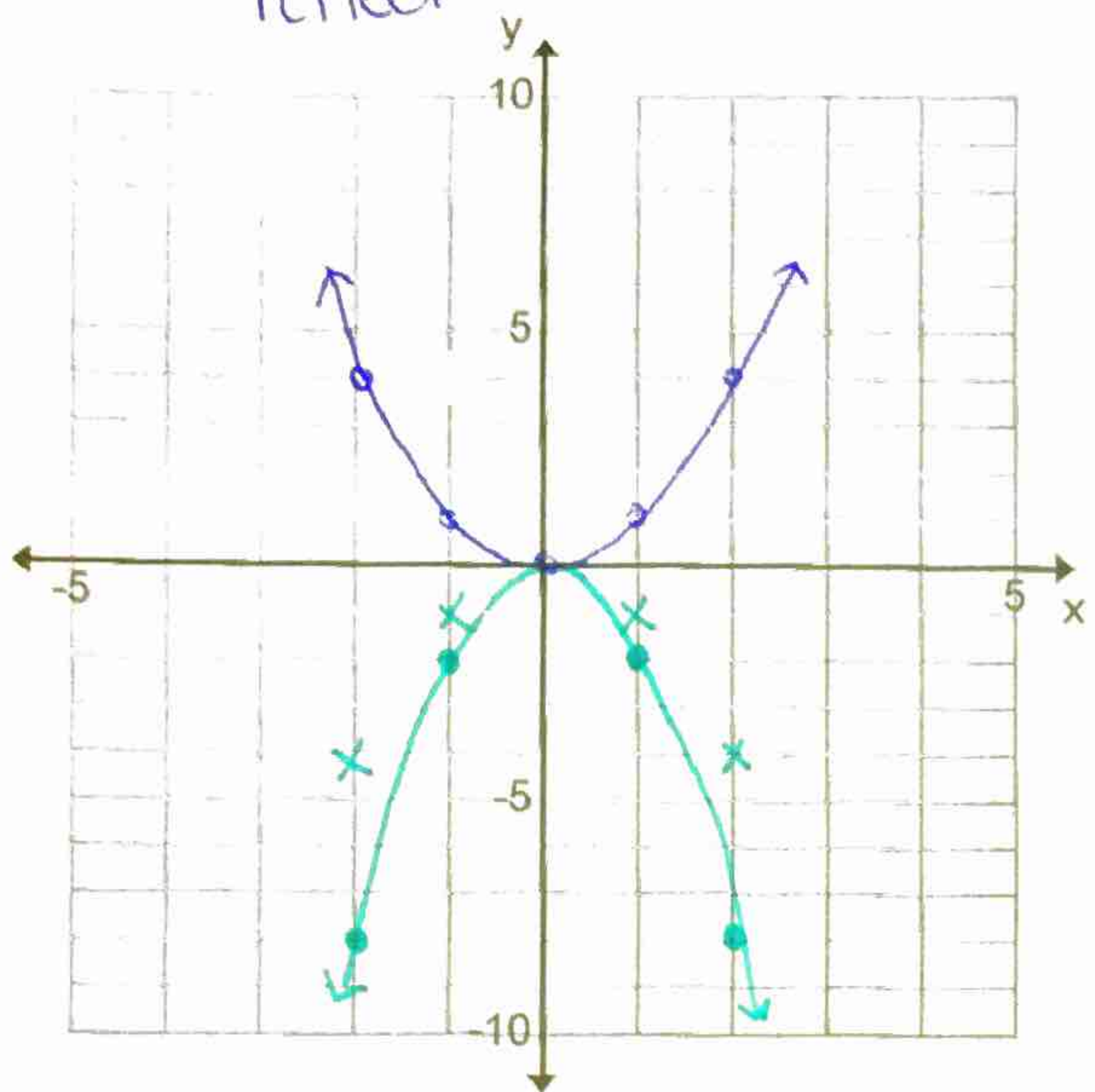
h: left/right movement

opposite of what you see

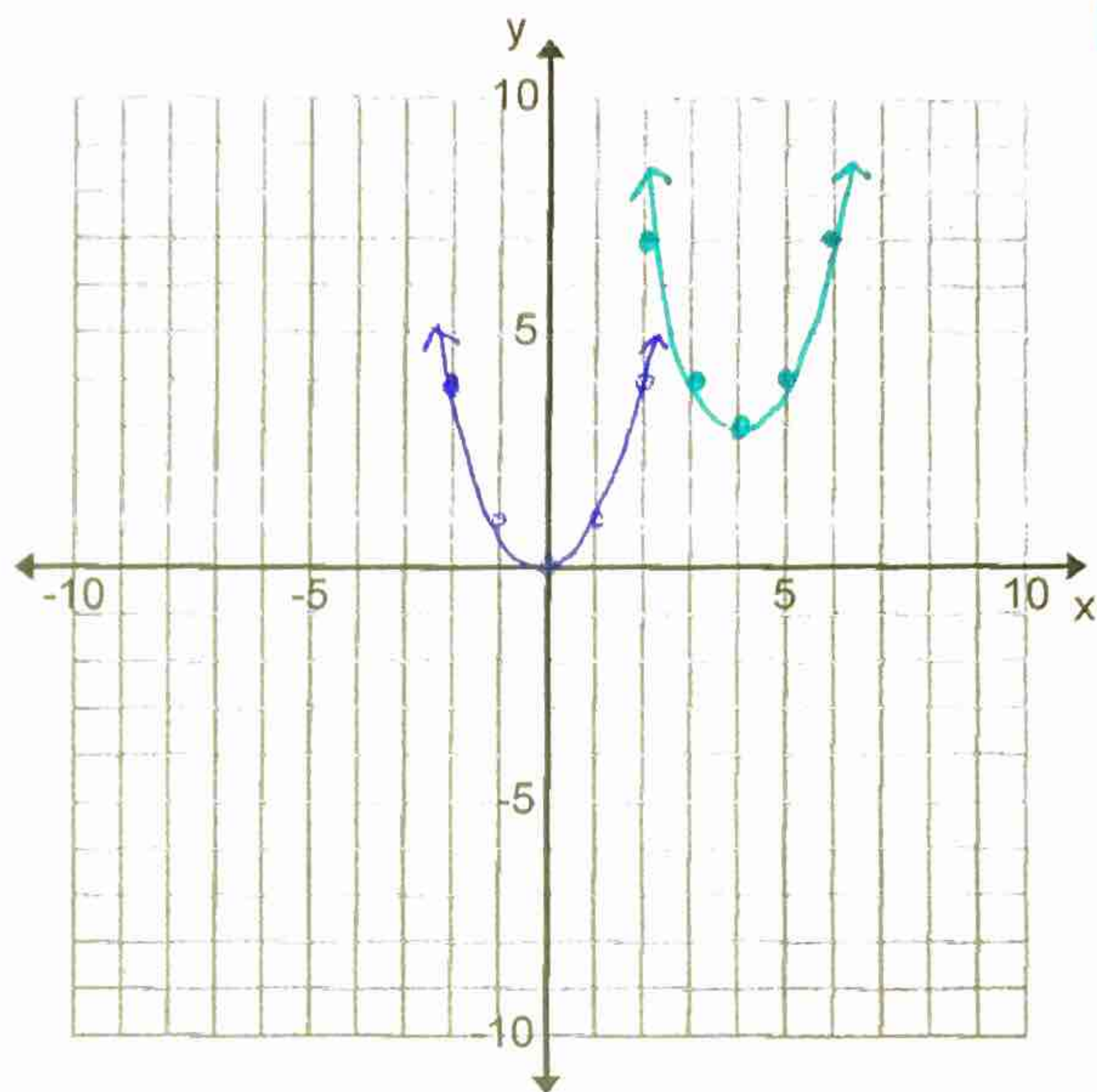
k: up/down movement

Graphing Examples: sketch a graph, find the x-intercepts, and line of symmetry

1. $y = -2x^2$ VD 2 → • y's by 2
 ↓
 reflect



2. $y = (x-4)^2 + 3$ ↑ 24 → U3

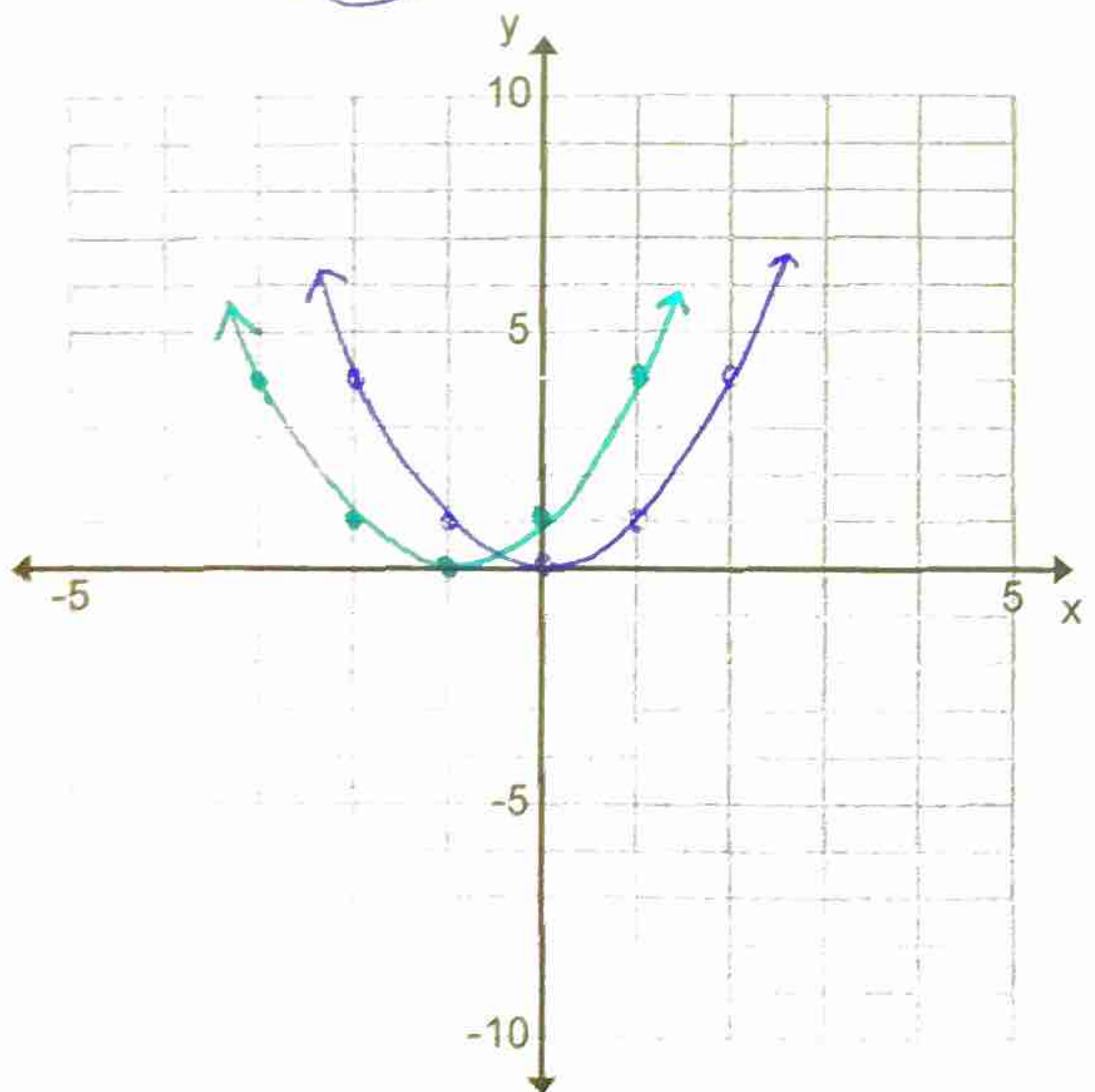


*always
 dilation & reflection
 1st *

3. $y = x^2 + 2x + 1$ factor!

$y = (x+1)(x+1)$

$y = (x+1)^2$ L1



4. $f(x) = -2x^2 - 1$ VD 2
 ↓ DI
 reflect
 over x-axis

