DRILL

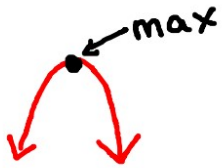
$f(x) = a(x-h)^2 + K$

① EX: $f(x) = 2(x-4)^2 + 8$

② "a" value . (Stretch) / Compression
. max / min
. opens up or down

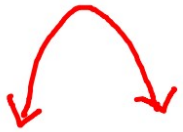
③ $f(x) = -4(x+7)^2 - 9$

a is negative



④ $f(x) = -\frac{4}{6}(x+2)^2 - 1$

"a" is negative



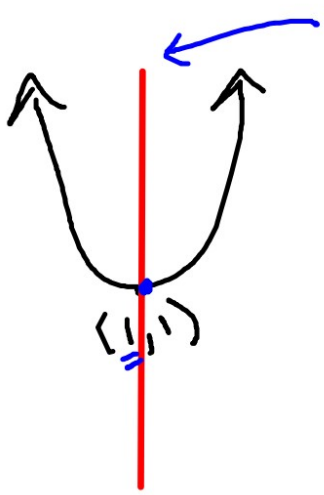
opens down

⑤

④ $f(x) = -\frac{4}{6}(x+2)^2 - 1$

"a" is negative

⑤

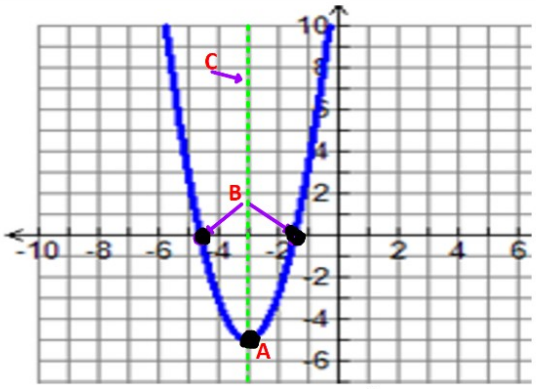


axis of symmetry

$x = 1$

opens down

⑥



A: vertex (min)

B: x-intercepts (zeros)

C: axis of symmetry

(7) $f(x) = 2(x - 4)^2 + 6$ (h = 4, k = 6)

Vertex (h, k)

vertex $(4, 6)$

(8) $f(x) = x^2$

$g(x) = \frac{1}{3}(x+2)^2 - 1$

left 2, down 1

- Left 2
- Down 1
- Horizontal Stretch (WIDER)

(9) Vertex $(3, -2)$ $a = 5$

$$f(x) = 5(x-3)^2 - 2$$

(10) * $f(x) = -2(x+2)^2 - 2$ ← MORE NARROW

DOWN FASTER →

* $f(x) = -\frac{1}{2}(x+2)^2 - 2$ ← WIDER

(11) $f(x) = (x-3)^2 - 4$

(*) Zeros: $x = 1$ & $x = 5$

y-int: $y = 5$