

- Sketch the graph of  $f(x) = -2(x - 3)^2 + 4$ . Describe the features of the graph/function.

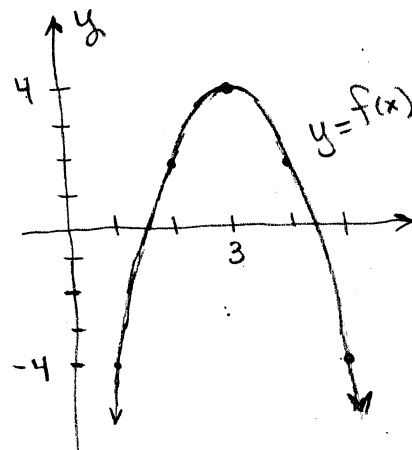
THE GRAPH OF  $f$  IS A PARABOLA THAT OPENS  
DOWNWARD WITH VERTEX AT  $(3, 4)$ .

SINCE  $f$  IS WRITTEN IN VERTEX FORM,  
WE CAN SIMPLY READ THAT INFORMATION.

PLOTTING JUST A FEW POINTS FOR SCALE...

$x$	$f(x)$
3	4
2	2
4	2
1	-4
5	-4

GRAPH LOOKS  
LIKE



$$\text{DOMAIN} = (-\infty, \infty)$$

$$\text{RANGE} = (-\infty, 4]$$

$$\text{MAX VALUE: } y = 4 \text{ AT } x = 3$$