Wednesday 10/18

- **SAT**

$g(x) = ax^2 + 24$

For the function g defined above, a is a constant and $g(4) = 8$. What is the value of $g(-4)$?

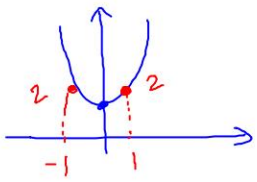
A) 8

B) 0

C) −1

D) −8

$g(x) = -5x^2 + 24$



$g(4) = 8$

input output

output

$g(x) = ax^2 + 24$

$g(4) = a(4)^2 + 24 = 8$

$a \cdot 16 + 24 = 8$

$16a + 24 = 8$

$-24 \quad -24$

$\frac{16a}{16} = \frac{-16}{16}$

$a = -1$

$g(x) = -x^2 + 24$

$g(-4) = -(-4)^2 + 24$

$= -16 + 24 = 8$

2nd method (shortcut)

$g(x)$ is a quadratic function. $\longrightarrow$ even

opposite inputs $\longrightarrow$ same output

$$g(4) = 8$$
$$g(-4) = 8$$