

1. $f(x) + 3$ does what to the graph?

Outside, adds to y

Answer: shifts up 3**2. $f(x) - 5$ does what?**

Outside, subtracts

Answer: shifts down 5**3. $f(x - 2)$ does what?**

Inside, opposite sign

Answer: shifts right 2**4. $f(x + 4)$ does what?**

Inside

Answer: shifts left 4**5. $-f(x)$ does what?**

Negates outputs

Answer: flips over the x-axis**6. Start with $y = x^2$. Write 'up 3'.**

Add outside

Answer: $y = x^2 + 3$ **7. Start with $y = x^2$. Write 'right 5, down 1'. (Trainer echo - shifting!)**

Inside x - 5, outside -1

Answer: $y = (x - 5)^2 - 1$ **8. $f(x) = |x|$. Describe $g(x) = |x + 3| - 2$.**

Left 3, down 2

Answer: left 3, down 2**9. The point (2, 5) is on $y = f(x)$. Where does it move on $y = f(x - 1) + 4$? ★ challenge**

Right 1, up 4

Answer: (3, 9)**10. Describe ALL the moves from $y = x^2$ to $y = -(x - 4)^2 + 6$, in order. ★ challenge**

Right 4, flip over x-axis, up 6

Answer: right 4, reflect, up 6