

Name: _____

Date: _____

$f(x) + k$: up/down. $f(x - h)$: right/left (opposite sign inside). $-f(x)$: flip over x -axis. Last two are challenge problems!

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

show your work

2. $f(x) - 5$ does what?

show your work

3. $f(x - 2)$ does what?

show your work

4. $f(x + 4)$ does what?

show your work

5. $-f(x)$ does what?

show your work

6. Start with $y = x^2$. Write 'up 3'.

show your work

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

show your work

8. $f(x) = |x|$. Describe $g(x) = |x + 3| - 2$.

show your work

9. The point (2, 5) is on $y = f(x)$. ★ CHALLENGE
Where does it move on $y = f(x - 1) + 4$?

show your work

10. Describe ALL the moves from $y = x^2$ to $y = -(x - 4)^2 + 6$, in order. ★ CHALLENGE

show your work