

## RECURSIVE FUNCTIONS

1. Find  $f(14)$ :

$$f(x) = \begin{cases} f(x-2) - 1 & \text{if } x \geq 10 \\ f(x-1) + 4 & \text{if } 6 < x < 10 \\ x - 3 & \text{if } x \leq 6 \end{cases}$$

2. Find  $f(f(f(10)))$ :

$$f(x) = \begin{cases} f(x-3) - 1 & \text{if } x \geq 8 \\ f(x+1) + 2 & \text{if } 5 < x < 8 \\ x + 2 & \text{if } x \leq 5 \end{cases}$$

3. Find  $f(12)$ :

$$f(x) = \begin{cases} 2 * f(x-3) - 3 & \text{if } x > 6 \\ f(x+2) + 1 & \text{if } 4 < x \leq 6 \\ x + 4 & \text{if } x \leq 4 \end{cases}$$

4. Find  $f(10,2)$ :

$$f(x, y) = \begin{cases} f(x-2, y+2) + 2 & \text{if } x > y \\ f(x+1, y-1) - 1 & \text{if } x = y \\ xy & \text{if } x < y \end{cases}$$