

1)  $D_{f(n)} = [-2, 5]$

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(2)

$$f\left(\frac{x_n+2}{\omega}\right) \rightarrow -2 \leq \frac{x_n+2}{\omega} \leq 5 \rightarrow -1 \leq x_n+2 \leq 10$$

$$-3 \leq x_n \leq 8$$

$$-5 \leq n \leq 7 \rightarrow D_{f\left(\frac{x_n+2}{\omega}\right)} = [-5, 7]$$

2)  $D = [-2, 3] \xrightarrow{f(x_n-2)} -2 \leq x_n \leq 9$

$$-1 \leq x_n-2 \leq 7 \rightarrow D_f = [-1, 7]$$

(2)

3)  $D = [-1, 3] \xrightarrow{f\left(\frac{x_n+1}{2}\right)} -1 \leq \frac{x_n+1}{2} \leq 3 \rightarrow D_{f(n)} = [-1, 5]$

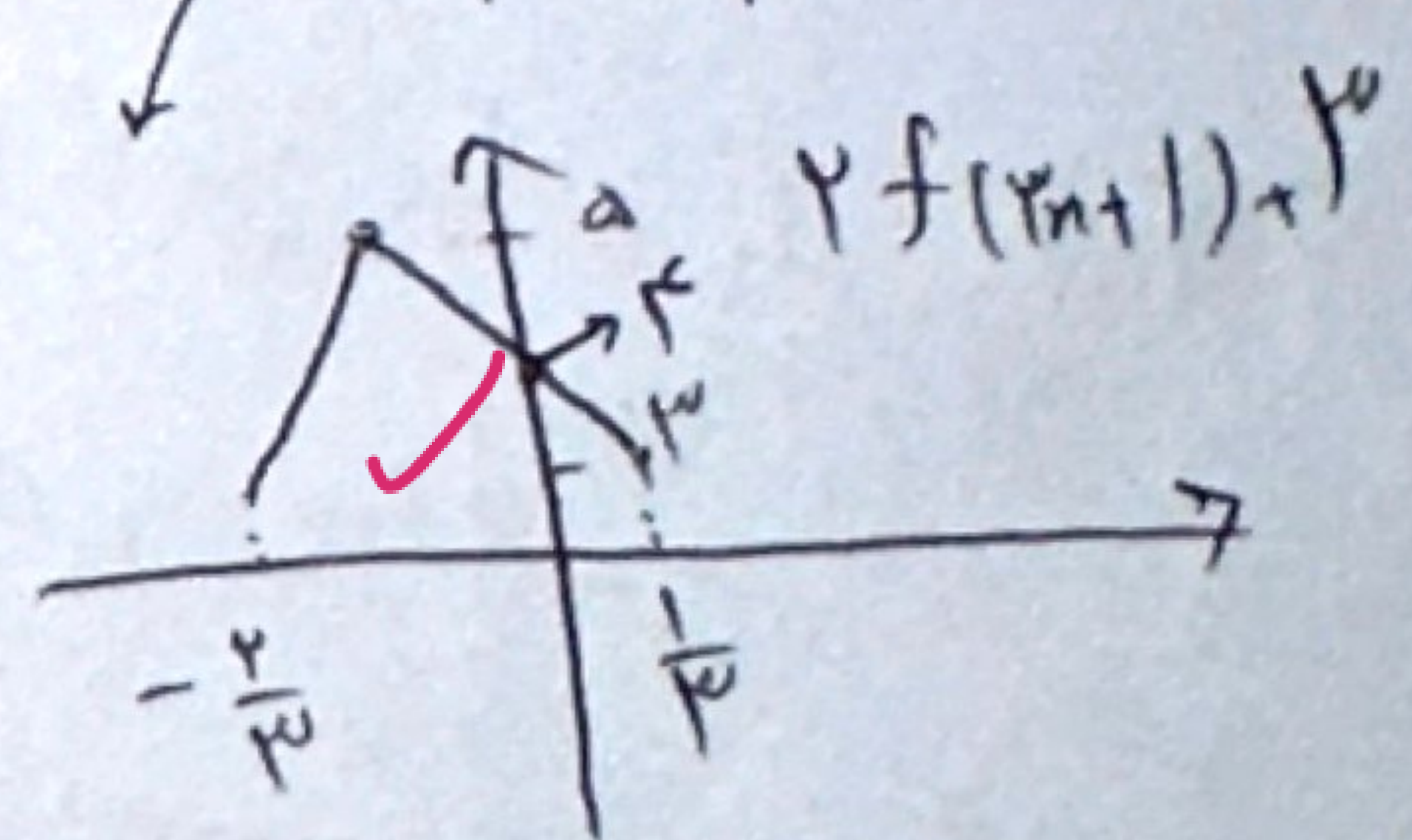
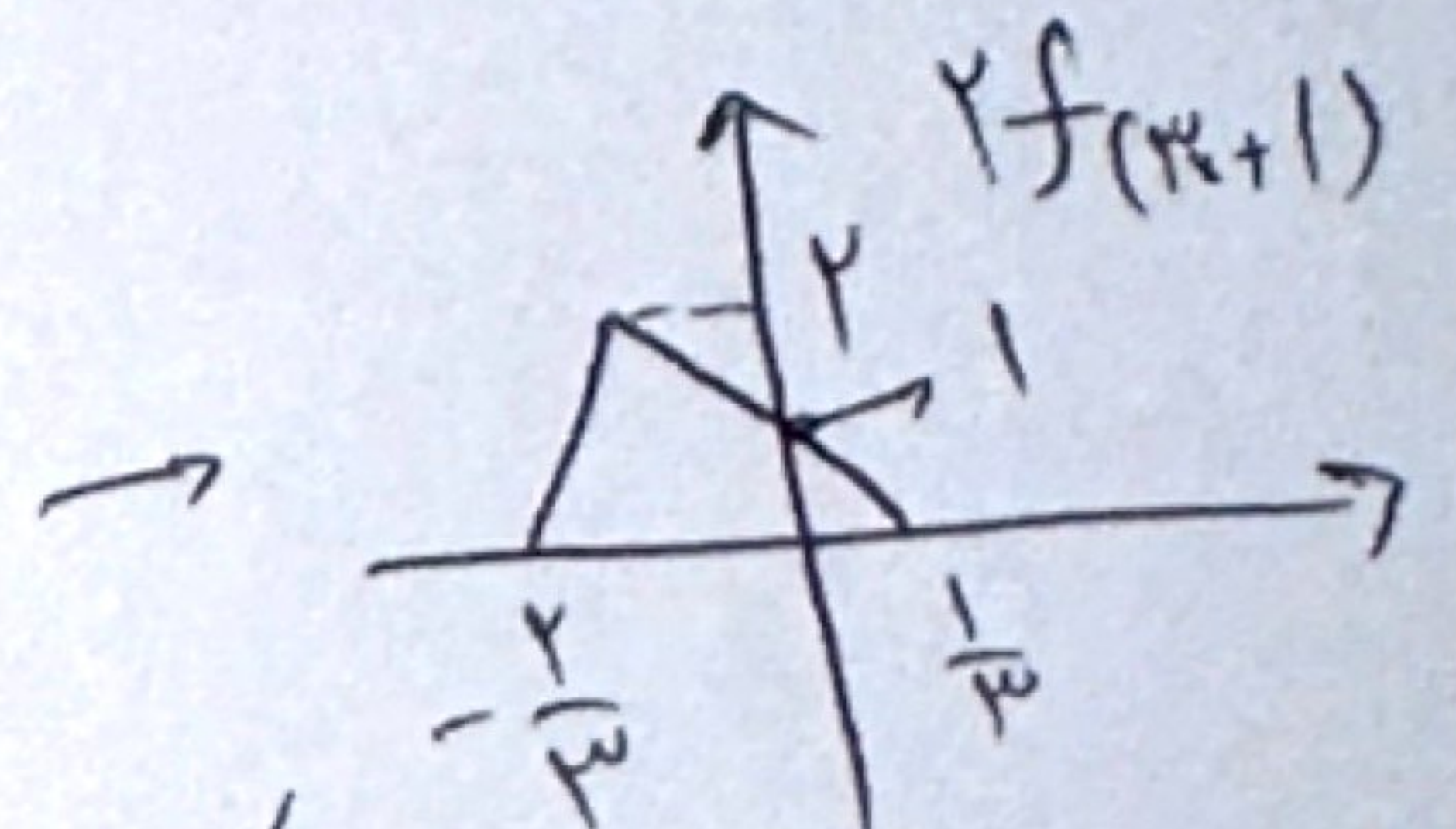
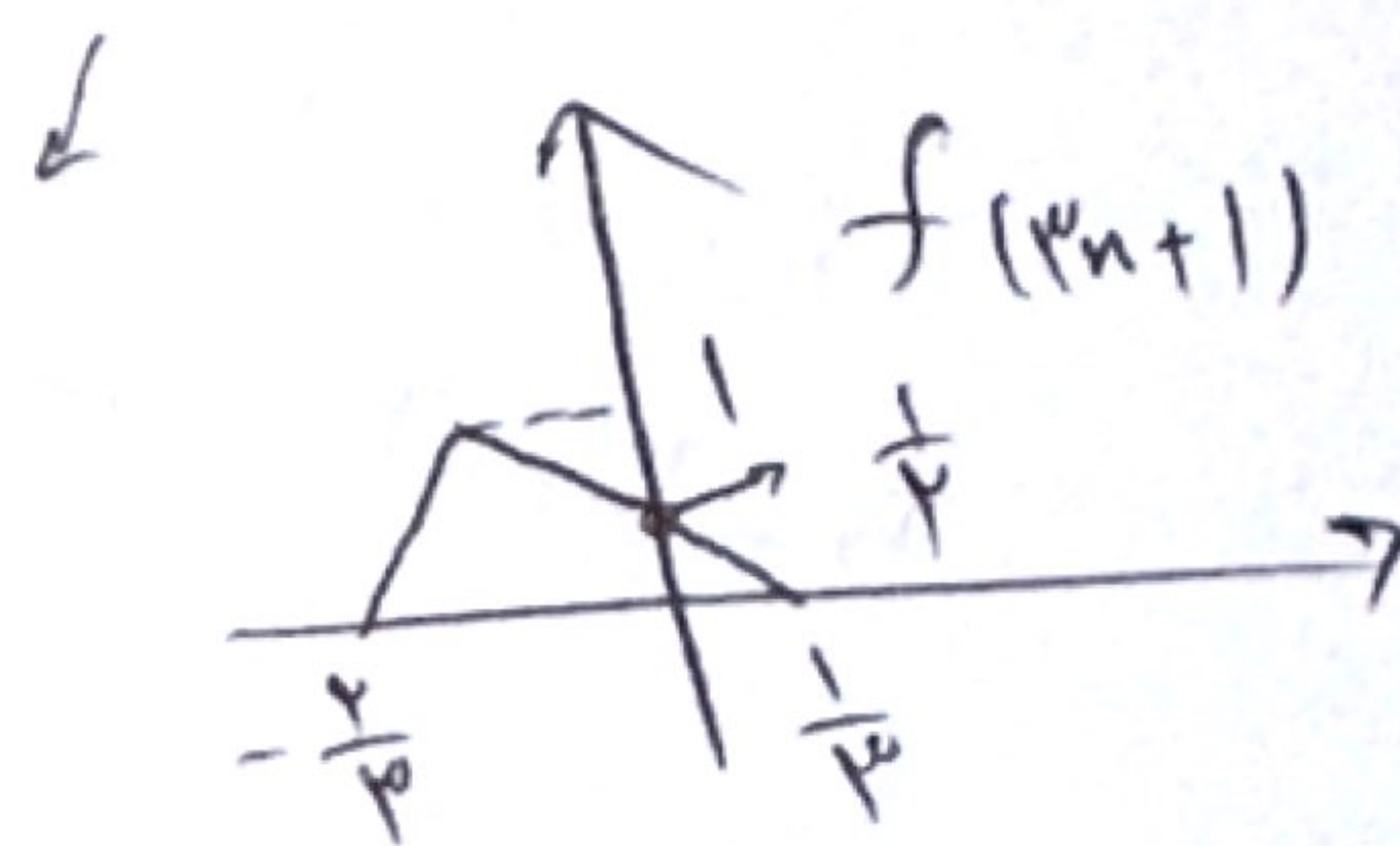
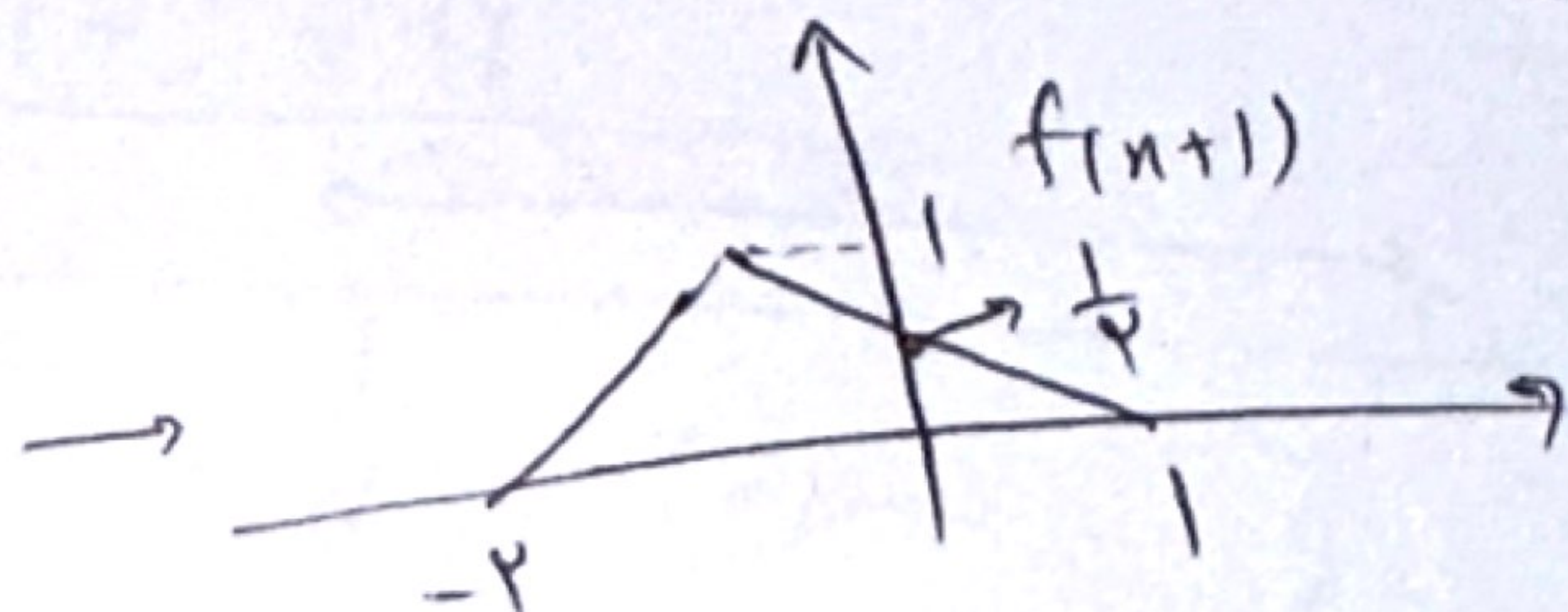
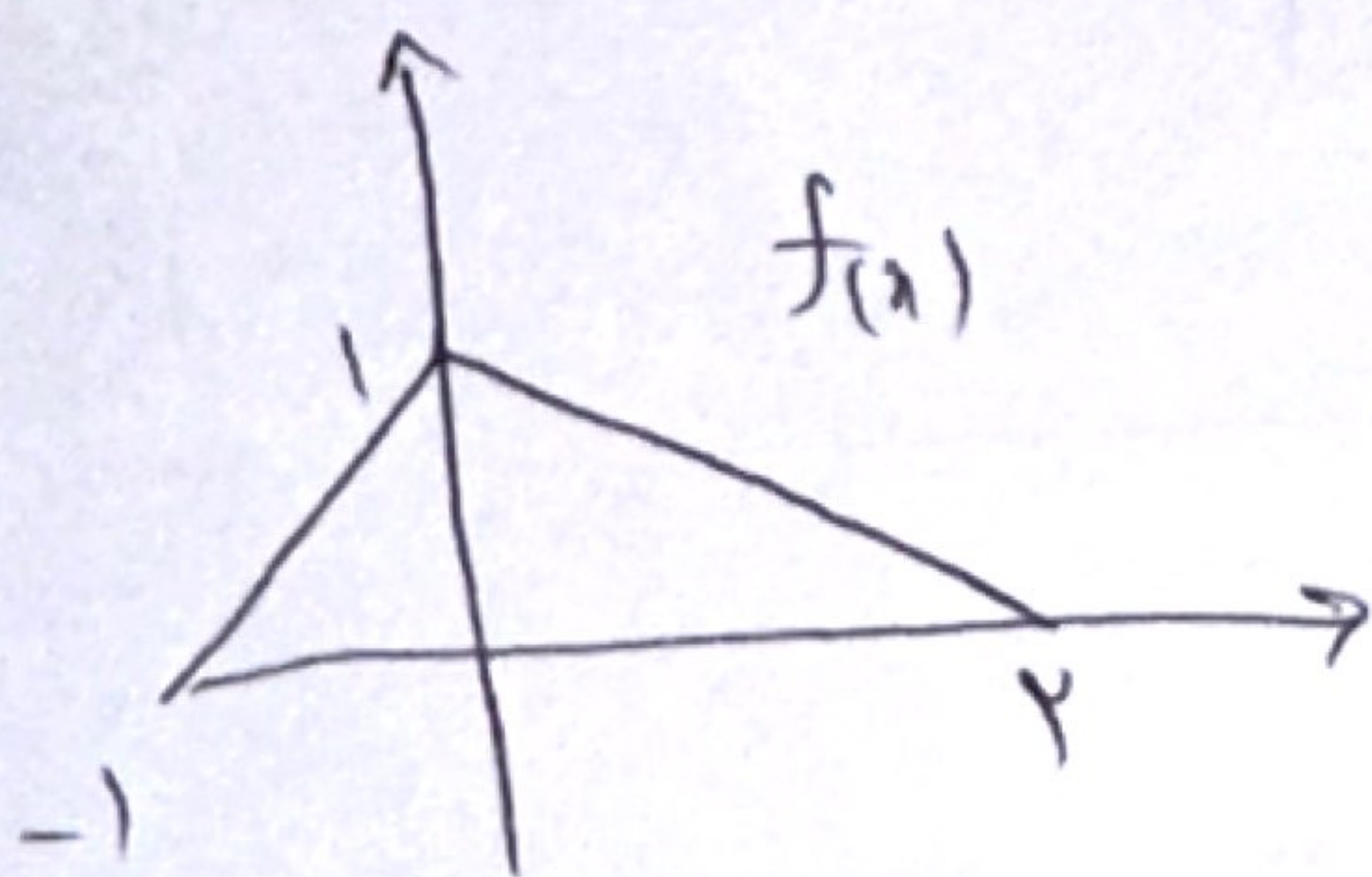
(2)

$$-1 \leq x-\omega n \leq 5$$

$$D_{f(x-\omega n)} = \left[-\frac{5}{\omega}, \frac{5}{\omega}\right] \quad -5 < \omega n - 2 \leq 1$$

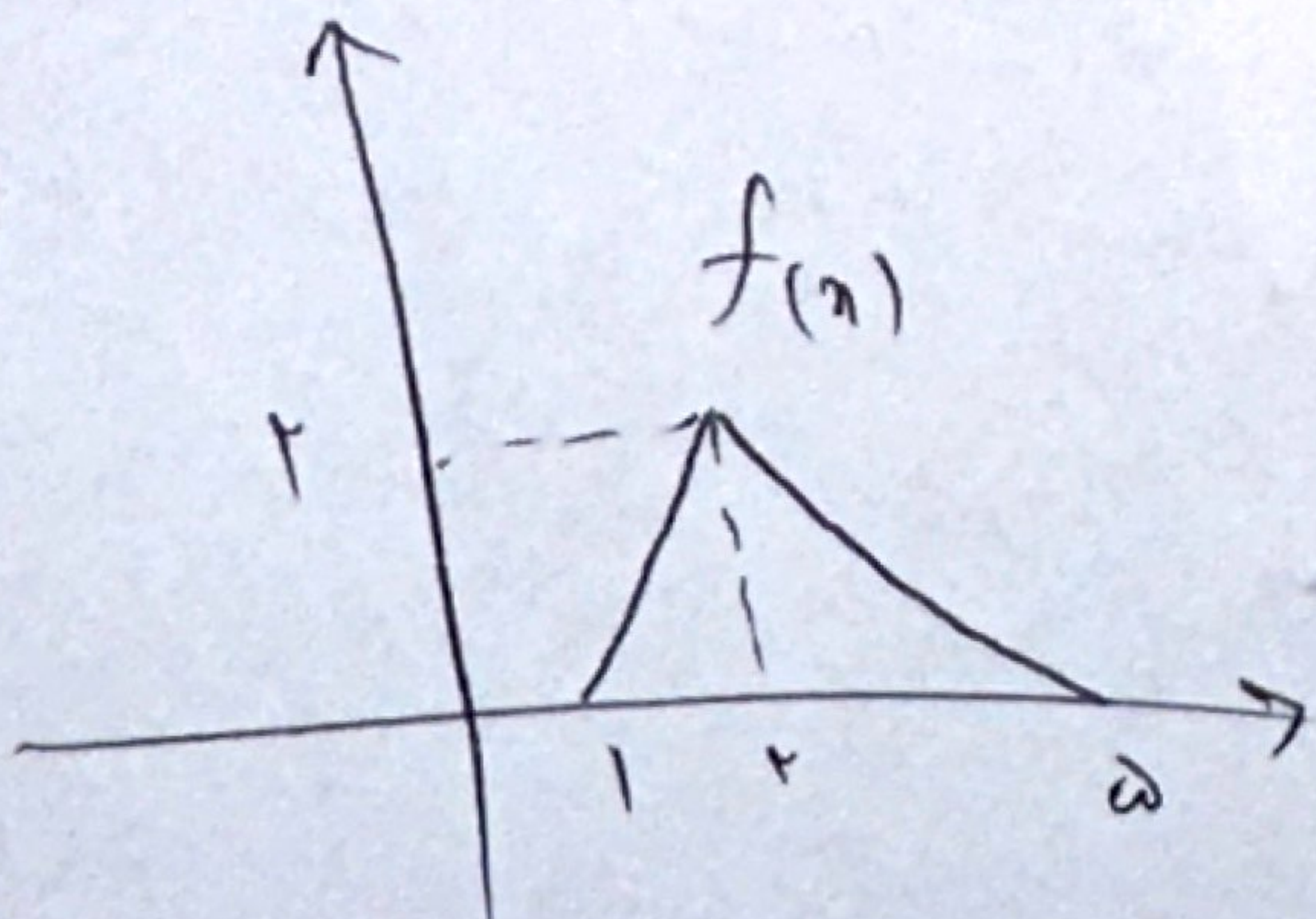
$$-\frac{5}{\omega} < n \leq \frac{1}{\omega}$$

4)

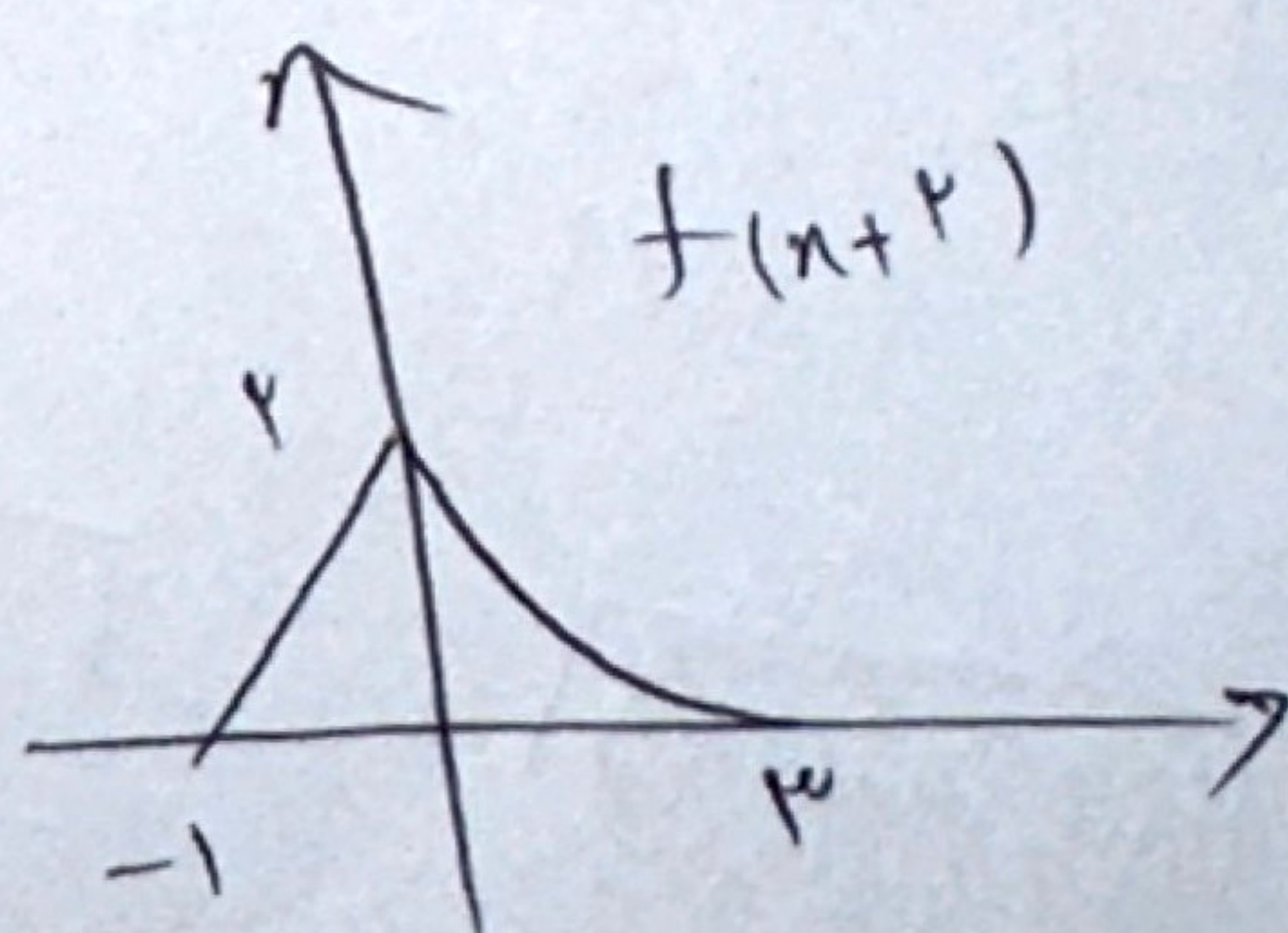


(2)

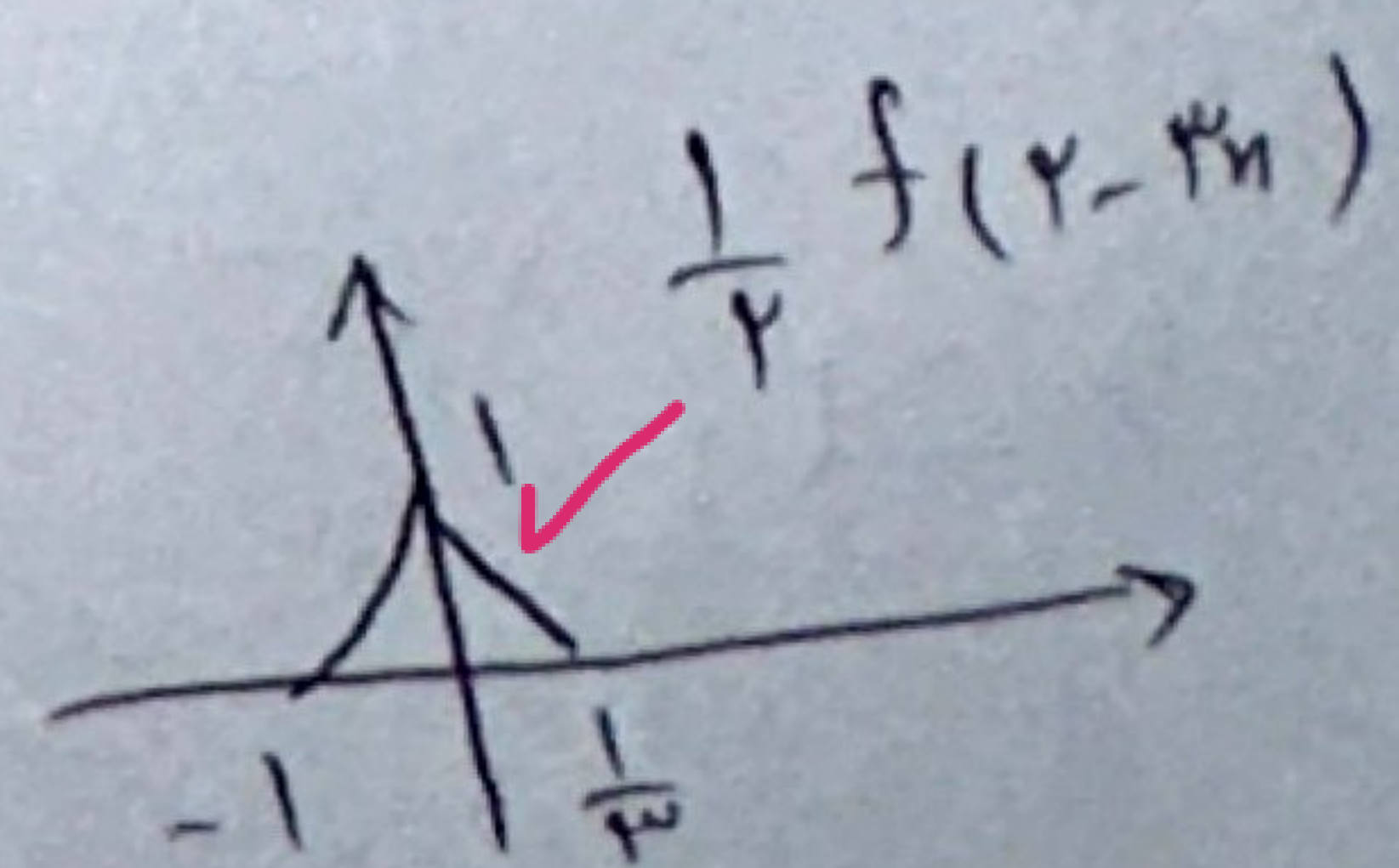
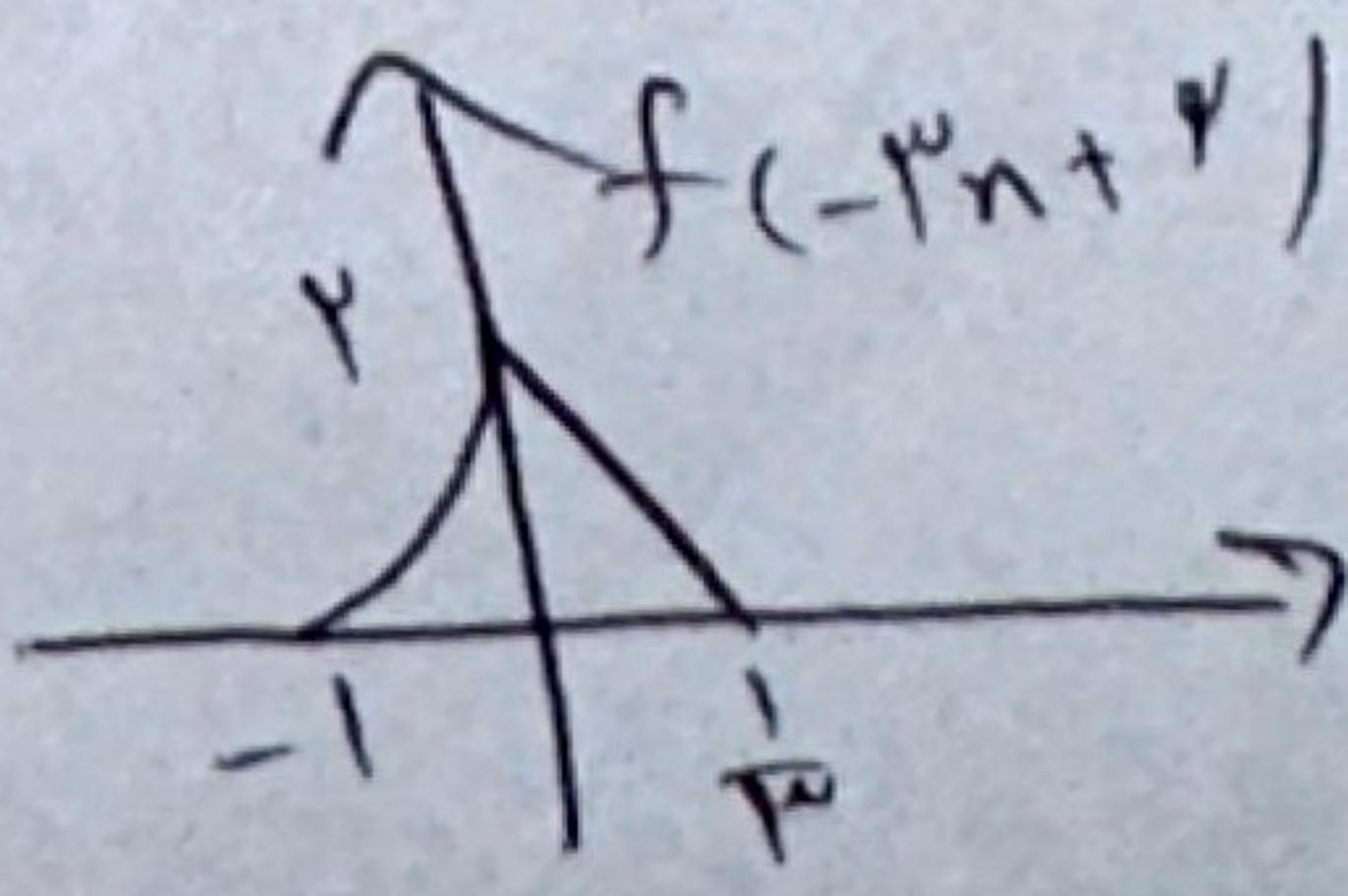
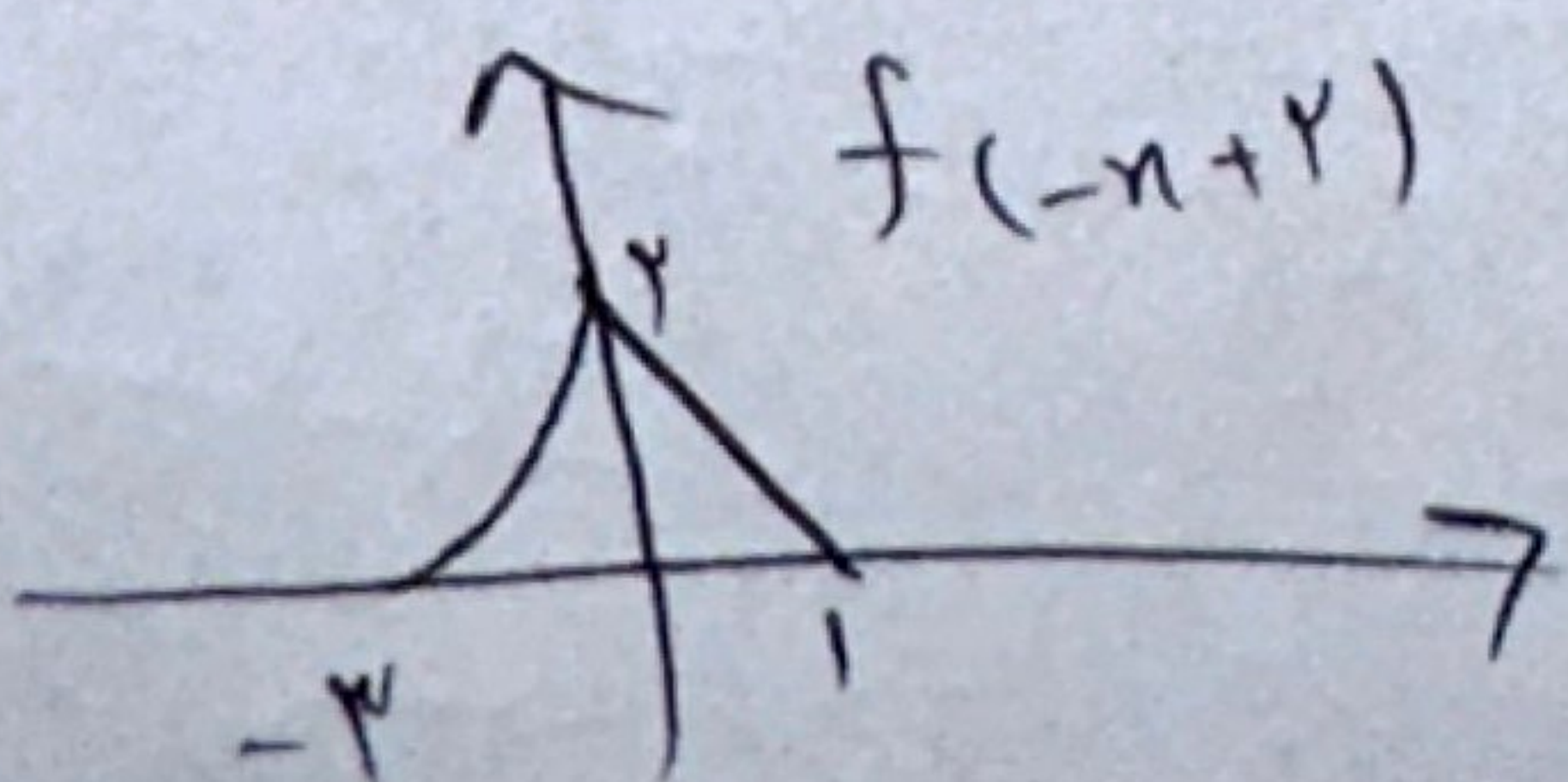
5)



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(2)

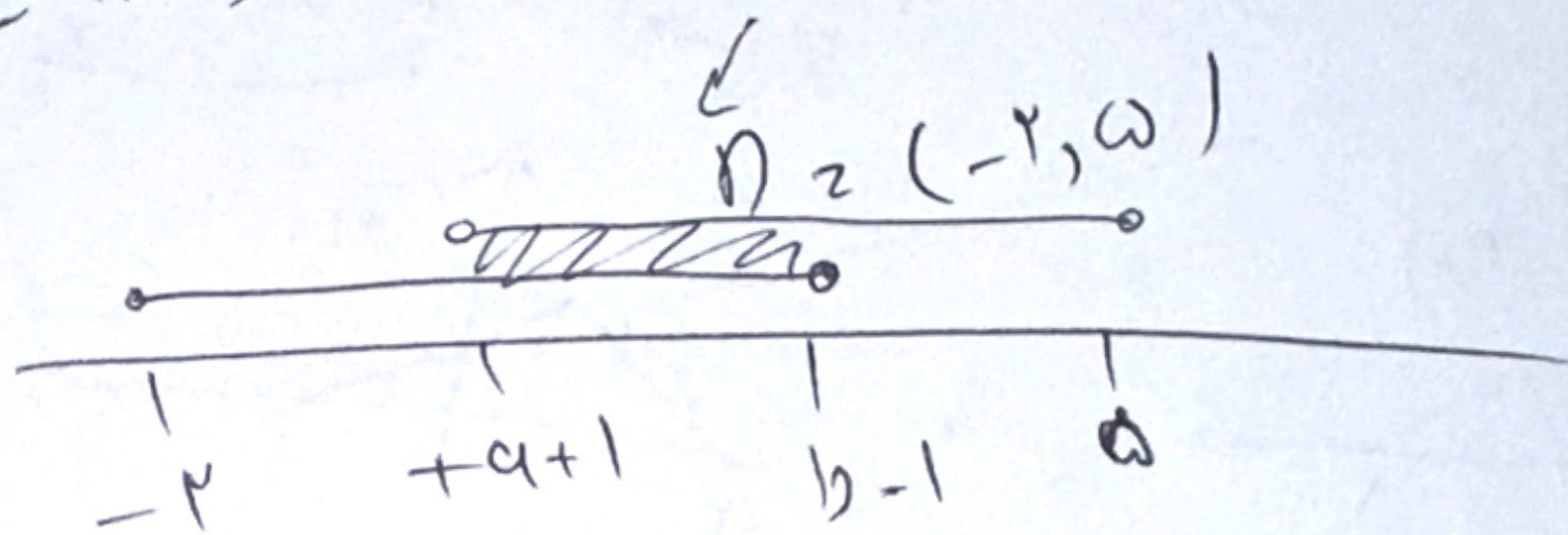


4)  $g(n) = -\frac{1}{n^2} (n-1)^2 + 1 = 0 \rightarrow (n-1)^2 = 1$  (۲)  
 $\downarrow$   
 $n-1 = \pm 1 \rightarrow \frac{n = 1}{n = 2}$  ✓

فریب  $n^2$  و  $n$  را تغییر ندهیم

✓)  $f(n) = -(n+1)(n-1)$  (۲)  
 $\downarrow$   
 $g = 1 + 1 \left[ + \frac{(1n+1)(1n-1)}{1n^2+1n-1} \right] = 1n^2 + 1n - 1$   
 $\downarrow$   
 $cat = \left( -\frac{1}{n^2} \right) \rightarrow \frac{1}{n} = \frac{1}{1}$  ✓

۱)  $Df = (a, c]$   $Df_{(n+1)} = (a+1, \omega]$   $Dg_{(n+1)} = [-1, b-1)$   
 $Dg = [-1, b)$   $\rightarrow g = f(n-1) + g(n+1)$  (۲)



$1+a = -1 \rightarrow a = -1$  ✓  
 $b-1 = \omega \rightarrow b = \omega$  ✓  $\rightarrow a-b = -1$  ✓

۹)  $g_1 = f\left(\frac{n}{2}+1\right)$  (۲)  
 $\downarrow$   
 $-1 \leq n \leq \omega \rightarrow -1/\omega \leq \frac{n}{2}+1 \leq 3/\omega$

$g_2 = \sqrt{|2f(n)-3|} \rightarrow |2f(n)-3| \geq 0$  ✓  
 $\downarrow$   
 $Dg_1 = [-1/\omega, 3/\omega]$

$f_{(n)} = f\left(\frac{n}{2}+1\right) = [-1, 1]$

$\downarrow$   
 $g_2 = \sqrt{|[-\omega+1]|} = \sqrt{[0, \omega]} \Rightarrow R = [0, \sqrt{\omega}]$  ✓

۱۰)  $g(n) = \left| \frac{n-1}{2n-3} \right| + 1$  (۲)  
 $g(n) < 0 \rightarrow \frac{n+1}{2n-3} + \frac{n-1}{2n-3} < 0 \rightarrow \frac{2n}{2n-3} < 0$   
 $\downarrow$   
 $\frac{n+1}{2n-3} < 0 \rightarrow \frac{n-1}{2n-3} = \frac{n-1}{2n-3}$   
 $\downarrow$   
 $n < -1 \rightarrow \frac{n-1}{2n-3} = \frac{n-1}{2n-3}$  ✓