

$$-2 \geq m \geq -4$$

$$-9 \geq m \geq -11$$

$$-11 \geq m \geq -13 \rightarrow -11 \geq m \geq -13$$

$$\rightarrow -11 \geq m \geq -13 \checkmark$$

۱۸/۵ (ب)

$$2 \geq m \geq -2$$

$$2 \geq m \geq -2$$

$$2 \geq m \geq -2$$

$$-2 \geq m \geq -2 \rightarrow -2 \geq m \geq -2 \checkmark$$

(الف)

$$f(x) = x - 2 + \sqrt{x - 4}$$

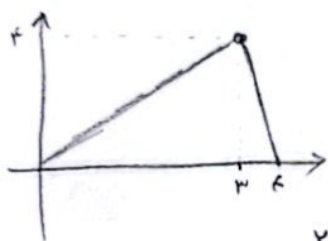
درستی و صحت را بررسی می‌کنیم

$$y = x - 2 + \sqrt{x - 4} \xrightarrow{\text{مشتق}} y = x - 2 + \sqrt{x - 4} - \frac{1}{2} = x - 4 + \sqrt{x - 4} + 2$$

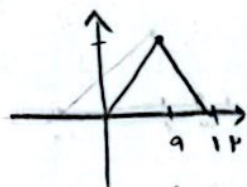
$$y = (\sqrt{x - 4} + \frac{1}{2})^2 + \frac{1}{4} \rightarrow \sqrt{y - \frac{1}{4}} = \sqrt{x - 4} + \frac{1}{2} \rightarrow \sqrt{y - \frac{1}{4}} - \frac{1}{2} = \sqrt{x - 4}$$

$$y - \frac{1}{4} - \frac{1}{4} - \sqrt{y - \frac{1}{4}} = x - 4 \rightarrow y + \frac{1}{2} - \sqrt{y - \frac{1}{4}} = x \xrightarrow{\text{مشتق}} x + \frac{1}{2} - \sqrt{x - 4} = f(x)$$

$$x + \frac{1}{2} - \sqrt{x - 4} = x \rightarrow \frac{1}{2} = \sqrt{x - 4} \xrightarrow{\text{مشتق}} \frac{1}{2} = \sqrt{x - 4} \rightarrow \frac{1}{4} = x - 4 \rightarrow x = \frac{17}{4} \checkmark$$



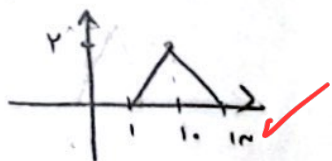
$x \times y$



$y \times x$



$$y = x$$



$$S = \frac{12 \times 2}{2} = 12 \checkmark$$

(۲)

$$\frac{x - a}{y} = 2 \rightarrow x - a = 2y \rightarrow x = 2y + a$$

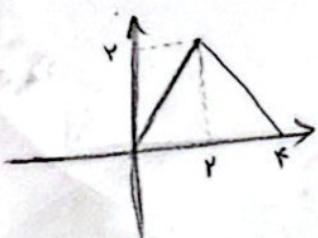
$$y = -2 \xrightarrow{x \times y} -2 \times 2 = -4 \rightarrow -4 + a = y_A'$$

خط $y = 2x - 1$ از نقطه y_A' می‌گذرد

$$y = 2x - 1$$

$$\rightarrow -4 + a = 2(2 + a) - 1 \rightarrow -4 + a = 4 + 2a - 1 \rightarrow a = -5 \checkmark$$

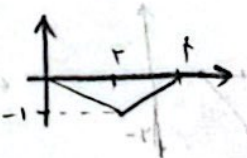
(۲)



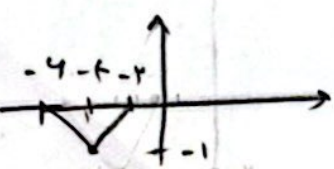
$y \times x$



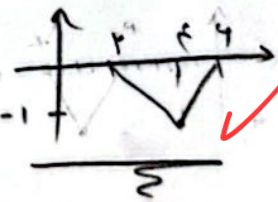
$y \times x$



$$m \times y$$



$m \times x$



(۲)

$x \neq -2$
 $f(x) \rightarrow -1/2/1/2 \rightarrow f(xm-1) \rightarrow 0/1/1/2$
 $\sqrt{-(x+2)f(xm-1)}$
 $\rightarrow -(x+2)f(xm-1) \geq 0$

 $\rightarrow [-2, 0] \cup [1, 2]$

$$f(x) = |2x-3|+1$$

$x=0 \rightarrow f(0) = |-3|+1 = 4 \rightarrow (0, 4) \rightarrow$ نقطه برقرار

$\text{معمولی} \rightarrow \{2(x+k)-3\}+1 \xrightarrow{\text{معمولی}} |2(x+k)-3|+1-3$

$$g(x) = |2x+2k-3| - 2 \rightarrow g(0) = |2k-3| - 2 \leq 4$$

$\begin{cases} 2k-3-2 \leq 4 \rightarrow k \leq 4.5 \\ 2k-3-2 \geq -4 \rightarrow k \geq -1.5 \end{cases} \xrightarrow{k \in \mathbb{Z}} k \in [-1, 4]$

$f(x) = \frac{2x-1}{x+1} \rightarrow -\frac{2x-1}{x+1}$

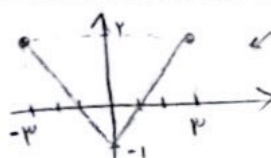
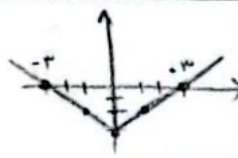
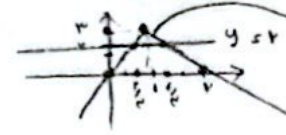
 $\frac{2x-1}{x+1}$
 $\frac{-4x+1}{3x+1}$
 $\frac{-2x+3}{x+3}$

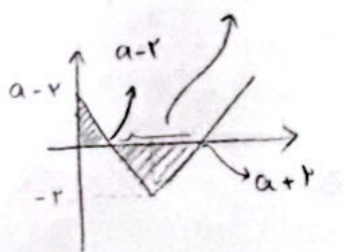
در 3 به این شکل قرار
 ها می شود

$n = -1$ می باشد
 $y = 2$ می باشد

نمودار را رسم کردیم و این نمودار را به کمک
 در $n = -1$ می باشد و این نمودار را به کمک

$K = 4$

$-f(\frac{x}{2})+2$



 $S = \frac{(5 - \frac{1}{2}) \times 1}{2}$
 $\frac{1}{2} \times 1 \times \frac{1}{2}$

$a+r = a+r = 4$


$$\frac{(a-r)(a-r)}{r} + \frac{r \times r}{r} = \frac{9}{4}$$

$$\frac{(a-r)^2}{r} = \frac{9}{4} - \frac{1}{r} \rightarrow \frac{(a-r)^2}{r} = \frac{1}{r}$$

$(a-r)^2 = 1 \rightarrow a-r = \pm 1 \rightarrow \begin{cases} a=3 \text{ و } 3 \\ a=+1 \text{ و } 5 \end{cases}$

$f(\frac{1}{a}) \rightarrow f(\frac{1}{2}) = |x-3|-2 = \frac{1}{2} - \frac{9}{2} = -\frac{4}{2}$
 $f(1) = -2$