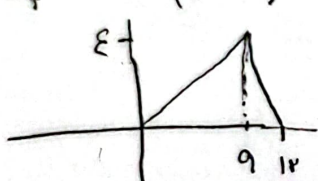
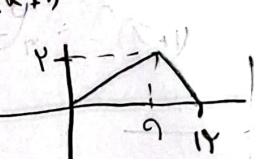
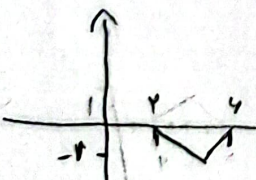
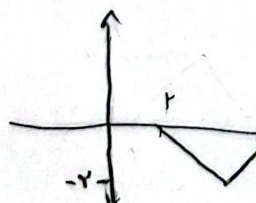
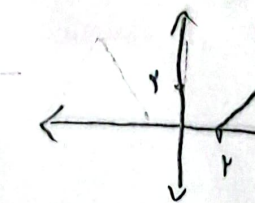
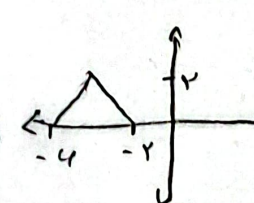


$f(3x-2), x = -4 \Rightarrow f(-14)$ $f(3x-2), x = -1 \Rightarrow f(-1)$ $\Rightarrow D_f = [-14, -1]$	الف) $f(3x-2) = g(x)$ $-4 \leq 3x-2 \leq 4$ $-\frac{2}{3} \leq x \leq \frac{4}{3}$ $D_g = [-\frac{2}{3}, \frac{4}{3}]$
$f(x) = x + \sqrt{x-2}$ $\xrightarrow{\text{مقادیر}}$ $f(x) = x + 2 + \sqrt{x-4} = (\sqrt{x-4} + \frac{1}{2})^2 + \frac{1}{4}$ $\xrightarrow{\text{مقادیر}}$ $y - \frac{1}{4} = (\sqrt{x-4} + \frac{1}{2})^2 \Rightarrow \sqrt{y - \frac{1}{4}} - \frac{1}{2} = \sqrt{x-4}$ $\Rightarrow y = (\sqrt{x-4} + \frac{1}{2})^2 + \frac{1}{4} \Rightarrow \sqrt{x-4} = \sqrt{y - \frac{1}{4}} - \frac{1}{2}$ x=8	۲
$y = 2f(x+1)$  $S = \frac{\text{ارتفاع} \times \text{طول}}{2} = \frac{2 \times 4}{2} = 4$	ابتدا تابع را به اندازه ۳ واحد مثبت افقی (م) $y = f(x+3)$  بعداً تابع را به اندازه ۲ واحد مثبت عمودی (م)  ۳
$\frac{x-a}{2} = 2 = m \Rightarrow y = 2m - 8 \Rightarrow a + 2m = -8 \Rightarrow a + 4 = -8 \Rightarrow a = -12$ $f(\frac{x-a}{2}) = -3 = n \Rightarrow g(x) = 2f(\frac{x-2}{2}) + 2$	۴
ابتدا ۲ واحد به چپ - سپس قرینه نسبت به محور عرض (م) - بعداً نسبت به محور طول ها - انعکاس عمودی (م) $\frac{1}{2} f(4-x)$ $f(4-x)$ $y = -f(4-x)$ $y = -f(x+4)$    	

$$y = \sqrt{-(x+r)/f(rk-1)}$$

$$rk-1 = \omega \Rightarrow k = \frac{\omega}{r}$$

$$rk-1 = -1 \Rightarrow k = 0$$

$$rk-1 = r \Rightarrow k = 1$$

$$\frac{-r}{-p} + \frac{0}{-p} - \frac{1}{-p} + \frac{r}{-p} +$$

$$D_f = [-r, 0] \cup [1, r]$$

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$$f(k) = |rk-r|+1 \quad \Rightarrow \quad |rk-r|+1 = |rk-r+k|-r$$

$$g(k) = |rk-r+k|-r \quad k \Rightarrow \quad \varepsilon = |k-r|-r \Rightarrow k = 9, k = -4$$

$$k > 0 \Rightarrow \boxed{k = 9}$$

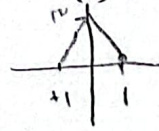
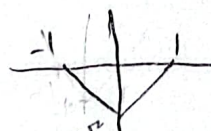
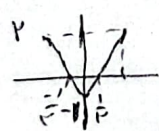
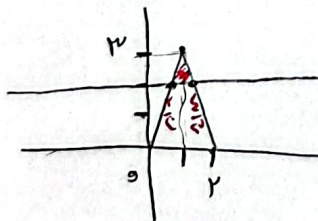
7

$$g(k) = \frac{-1 - \frac{r}{p}k}{-\frac{r}{p} + 1} = \frac{-rk+r}{r-r} \quad h(k) = \frac{rk+r+a(r-r)}{r-r} \quad f(k) = h(k)$$

$$(k+1)(rk+r+a(r-r)) = (k-r)(rk-r) \Rightarrow \cancel{rk^2} + \cancel{rk} + ar^2 - \cancel{rak} + rk + r + a(r-r) = \cancel{rk^2} - \cancel{rk} - \cancel{rk} + r$$

$$\Rightarrow ar^2 + rk - rak + r - ra = -rk + r \Rightarrow ar^2 + (1-r)a/k - ra = 0 \Rightarrow a = 0$$

$$g_1 = -f\left(\frac{r}{p}\right) + r \rightarrow -f(k) + r \rightarrow -f(k) \rightarrow f(k) \rightarrow f(k-1)$$



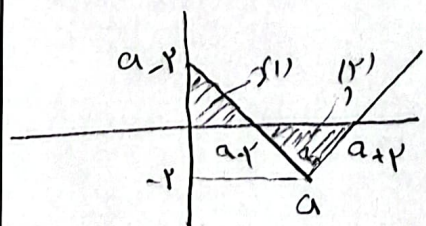
$$rk=r \Rightarrow k = \frac{r}{p}$$

$$r-rk=r \Rightarrow k = \frac{r}{p}$$

$$\frac{r}{p} - \frac{r}{p} = \frac{r}{p} = 0 \Rightarrow \varepsilon(r) = 1$$

$$S = \frac{r}{p} \times 1 \times \frac{1}{r} = \frac{1}{p}$$

9



$$S_{(1)} = \left| \frac{(a-r)(a-r)}{r} \right| = \frac{a^2 - \varepsilon a - \varepsilon}{r} = \frac{(a-r)^2}{r}$$

$$S_{(2)} = \left| \frac{(a-r)(a-r)}{r} \right| = \frac{a^2 - \varepsilon a - \varepsilon}{r} = \frac{(a-r)^2}{r}$$

$$\frac{(a-r)^2}{r} + \varepsilon = \frac{9}{p} \Rightarrow a^2 - \varepsilon a + \varepsilon = 1 \Rightarrow a = r$$

$$f(k) = |k-r|-r \rightarrow f\left(\frac{r}{p}\right) = \left|\frac{r}{p}-r\right|-r = \frac{1}{p}-r = \boxed{\frac{r}{p}}$$

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