

Date _____

Subject _____

کتاب ریاضی دوازدهم دبیرستان

$$-2 \leq \frac{3x+2}{5} \leq 2$$

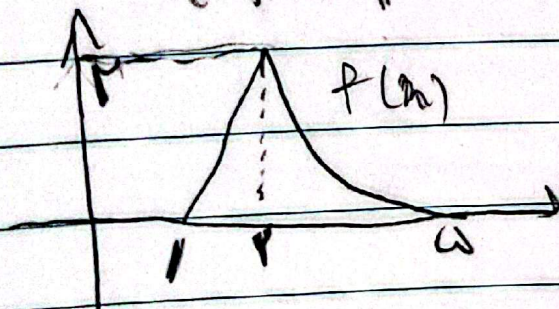
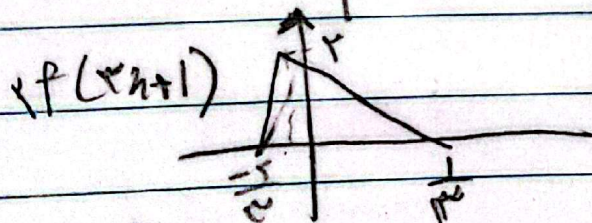
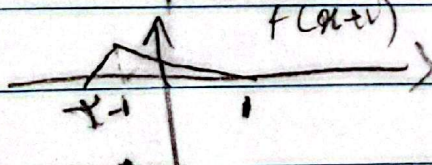
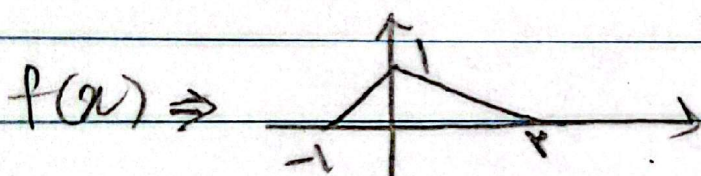
$$-2 \leq x \leq 2 \rightarrow [-2, 2]$$

$$f(3x-2) \rightarrow D = [-2, 2]$$

$$[-1, 7]$$

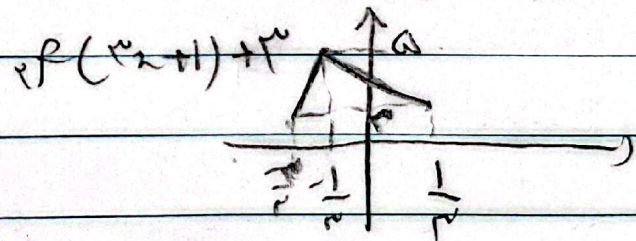
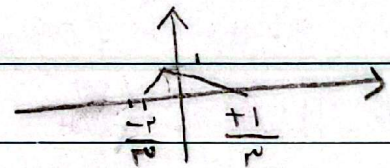
$$f\left(\frac{3x+1}{2}\right) \rightarrow D = [-6, 3] \rightarrow \frac{3(-6)+1}{2} \leq \frac{3x+1}{2} \leq \frac{3(3)+1}{2}$$

$$\rightarrow -1 \leq \frac{3x+1}{2} \leq 5 \rightarrow -1 \leq 2-3x \leq 5 \rightarrow \left[-\frac{5}{3}, \frac{3}{3}\right]$$

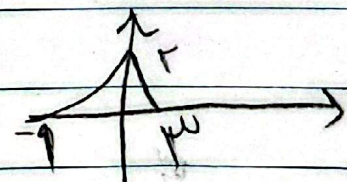
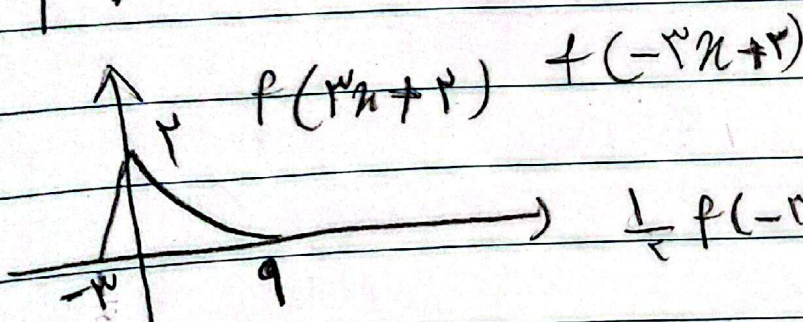
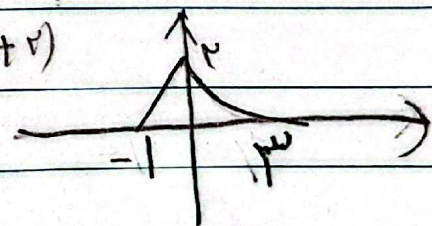


$$2f(3x+1)+3$$

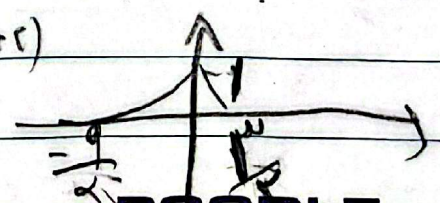
$$f\left(\frac{x+1}{2}\right)$$



$$f(x+1)$$



$$\frac{1}{2} f(-3x+2)$$

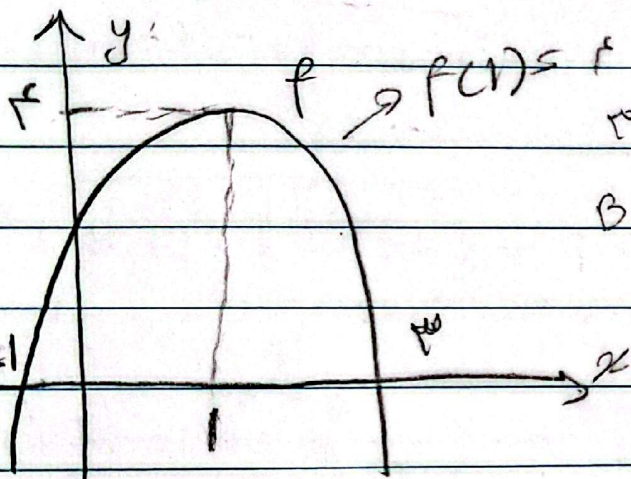


$$y = -\frac{1}{r}x^r + \frac{r}{a}x + 1 \rightarrow \left(\frac{r}{a}, \frac{r+1}{ra}\right)$$

$$y = -\frac{1}{r}(x-r)^r + r = 0$$

$$(x-r)^r = r \Rightarrow x=1, x=r$$

$$A(\alpha, \beta) \quad y = 1 - rf(rx + r)$$



$$rx + r = 1 \Rightarrow x = \frac{-1}{r}$$

$$\beta = 1 - rf(1) \rightarrow -r$$

$$\alpha = -\frac{1}{r}, \beta = -r$$

$$\alpha\beta = \frac{r}{r}$$

$$D_f = [\alpha, r] \quad D_g = [-1, b]$$

$$y = f(x-1) + g(x+1)$$

$$D_y = (-r, a)$$

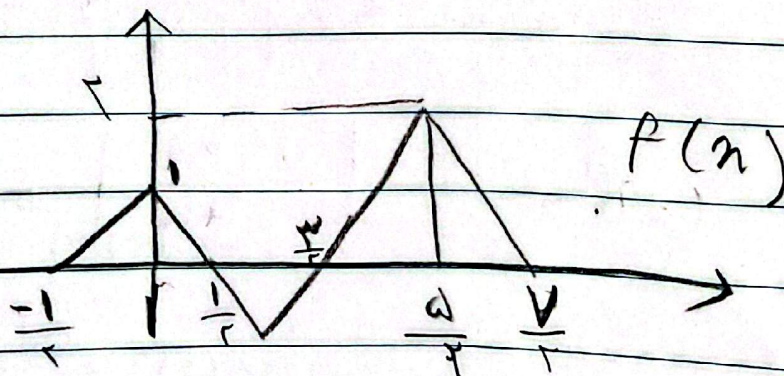
$$\alpha \leq x-1 \leq r \rightarrow \alpha+1 \leq x \leq r+1$$

$$-1 \leq x+1 \leq b \rightarrow -r \leq x \leq b-1$$

$$\alpha+1 \leq -r \Rightarrow \alpha \leq -r-1$$

$$b-1 \leq a \Rightarrow b \leq a+1$$

$$a-b \leq -r-1 \leq -1$$



?

$$f(n) = \left| \frac{n+1}{r n + 1} \right| \rightarrow g(n) = \left| \frac{n-1}{r n - r} \right| + 1 \quad (10)$$

$$n+1 + \left| \frac{n-1}{r n - r} \right| < 0$$

$n+1 + \frac{n-1}{r n - r}$	$n+1 + \frac{1-n}{r n - r}$	$n+1 + \frac{n-1}{r n - r}$
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$$\frac{(r n - r)(n+1) + n-1}{r n - r} < 0 \rightarrow \frac{r n^2 - r}{r n - r} \quad -\sqrt{r} \quad \sqrt{r} \quad \frac{r}{r}$$

$$\frac{(n+1)(r n - r) + 1 - n}{r n - r} < 0 \quad -\frac{1-r\sqrt{r}}{r} \quad +\frac{1+r\sqrt{r}}{r} \quad \frac{r}{r}$$

$$\frac{r n^2 - r n - r}{r n - r} \quad (-\infty, -\sqrt{r})$$