

Subject:

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طاهره صابری - یازدهم پسر - تلف هشت

1. $f(x) = \sqrt{1-x^2}$, $g = \{(-1,1), (0,1), (1,0), (1,1)\}$ (1, 1, 25)

$rg - rf = e$

5. $1-x^2 \geq 0 \rightarrow x^2 \leq 1 \rightarrow -1 \leq x \leq 1 \Rightarrow Df = [-1, 1]$

$Dg = \{-1, 0, 1, 1\}$

اعداد مقبول باشند $1, 0, -1$

$f(1) = 0, g(1) = 1 \rightarrow 1 - f(0) = 1$
 $f(0) = 1, g(0) = 1 \rightarrow 1 - f(0) = 0$
 $f(-1) = 0, g(-1) = 1 \rightarrow 1 - f(0) = 1$
 $\Rightarrow rg - rf = \{(1,1), (0,0), (-1,1)\}$
 جمع $1 + 0 + 1 = 2$ (11) (25)

2. $f(x) = 2x-1 \rightarrow [2, +\infty) \rightarrow (2 \times 2) - 1 = 3, (2 \times 3) - 1 = 5, \dots \rightarrow Rf = [3, +\infty)$
 $g(x) = \frac{1}{x}x + 3 \rightarrow (-\infty, 3] \rightarrow \frac{1}{x}(x) + 3 = 4, \frac{1}{x}(2) + 3 = \frac{7}{2}, \dots \rightarrow Rg = (-\infty, 4]$

15. $Rf \cup Rg \rightarrow (-\infty, 4] \cup [3, +\infty)$ ✓

$y = \frac{-x^2}{x} + x + 3 \rightarrow \frac{-x^2}{x} + x + 3 > \frac{3}{x} \rightarrow \frac{-x^2}{x} + x + \frac{3}{x} > 0 \rightarrow -x^2 + 2x + 3 > 0$ (21) ✓
 $(x+1)(-x+3) > 0$

$(-1, 3) = (a, b) \rightarrow a = -1, b = 3$

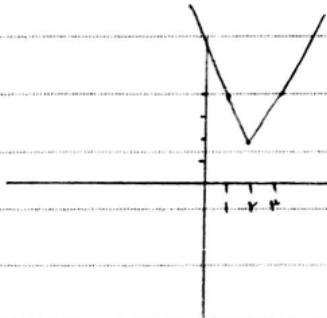
20. $\sqrt{b \cdot a} = \sqrt{3 \cdot 1} = \sqrt{3} = 2$ ✓

$\begin{array}{c|c|c} - & + & - \\ \hline 0 & 1 & 0 \\ \hline - & + & - \end{array}$
 $(-1, 3)$

$y = |x-1| + |x-2| + |2x-3|$

25.

$-x-1-x+3$ $= -2x+2$ $= -2x+2$	$x-1-x+3$ $= -2x+2$ $= -2x+2$	$x-1-x+3$ $= -2x+2$ $= -2x+2$	$x-1-x-2+2x-3$ $= -2x-2$ $= -2x-2$
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$\rightarrow 2$ ✓

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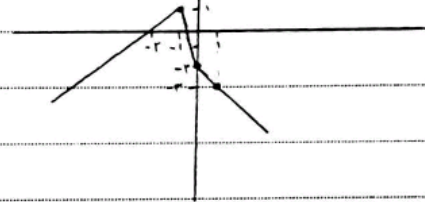
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$$y = |x| - 2|x+1|$$

$$\begin{array}{|c|c|c|} \hline -x+2x+2 & -x-2x-2 & x-2x-2 \\ \hline = x+2 & = -3x-2 & = -(x+2) \\ \hline \end{array}$$

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$$Ry = (-\infty, 1] \checkmark$$



$$y = \frac{x^2 + 2x + m}{x+1} \rightarrow xy + y = x^2 + 2x + m \rightarrow x^2 + (2-y)x + m-y = 0$$

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$$\Delta = \frac{y^2 - 4 \cdot 1 \cdot y + 4 + 4y - 4m}{4} \leq 0$$

انہ ۴ = m ہاں ۳: بنو حذف فیہ و
دینہ R نیہ پس {1, 2, 3} m =

$$4y - 4m + 4y - 4m \leq 0 \Rightarrow 8y - 8m \leq 0$$

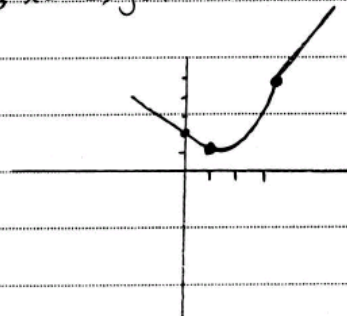
$$m \leq y \rightarrow m \in \{1, 2, 3\}$$

$$15 \quad x+2 \rightarrow x \geq 2 \xrightarrow{x=2} y=2$$

$$x^2 - 2x + 2 \rightarrow 0 \leq x \leq 2 \rightarrow x=2 \rightarrow y=2, x=0 \rightarrow y=2$$

$$|x|+2 \rightarrow x < 0 \rightarrow x=0 \rightarrow y=2$$

$$Rf = [2, +\infty) \checkmark$$



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$$x^2 + 4x + 3 \rightarrow x \leq 0$$

$$[4x] - 2x \rightarrow x > 0 \rightarrow 4x = t \rightarrow [t] - t \rightarrow (-1, 0] \text{ I}$$

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$$y' = x^2 + 4x + 3 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2 \rightarrow Ry' = [-2, +\infty) \text{ II}$$

$$I \cup II \rightarrow [-2, +\infty) \checkmark$$

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$$y = a+1 - \sqrt{rx+r} \quad Dy = [b, +\infty) \quad Ry = (-\infty, a]$$

(2) 9

$$rx+r \geq 0 \rightarrow x \geq -\frac{r}{r} \Rightarrow Dy = [-\frac{r}{r}, +\infty) \Rightarrow b = -\frac{r}{r} \checkmark$$

$$-\infty < a+1 - \sqrt{rx+r} \leq a+1 \quad a \times b = -\frac{r}{r} \times \varepsilon = -\varepsilon \checkmark$$

$$a+1 = a, a = \varepsilon \checkmark$$

$$f(x) = r\sqrt{x+1} + r\sqrt{1-x} \quad Df = Dg \quad \frac{f(x)}{r} - \frac{g(x)}{r}$$

$$f(x) + g(x) = r\sqrt{r+r}\sqrt{1-xr}$$

(2) 1.

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$$x+1 \geq 0 \rightarrow x \geq -1, 1-x \geq 0 \rightarrow x \leq 1 \Rightarrow Df = [-1, 1]$$

$$r\sqrt{r+r}\sqrt{1-xr} = f(x) = g(x) = r\sqrt{r+r}\sqrt{1-xr} - r\sqrt{x+1} + r\sqrt{1-x}$$

$$\frac{r\sqrt{x+1} + r\sqrt{1-x}}{r} - \frac{r\sqrt{r+r}\sqrt{1-xr} - r\sqrt{x+1} - r\sqrt{1-x}}{r} = \sqrt{x+1} + r\sqrt{1-x} - \sqrt{(1-x)(1+x)r}$$

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$$= \sqrt{x+1} + r\sqrt{1-x} - |\sqrt{1-x} + \sqrt{1+x}|$$

$$\sqrt{x+1} + r\sqrt{1-x} - \sqrt{1-x} - \sqrt{x+1} = \sqrt{1-x} \quad \left. \begin{array}{l} Dy = [0, \sqrt{r}] \checkmark \\ Df = [-1, 1] \end{array} \right\}$$

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