

11/5

Linear / (C) / (B) / (A) / (D) / (E) / (F) / (G) / (H) / (I) / (J) / (K) / (L) / (M) / (N) / (O) / (P) / (Q) / (R) / (S) / (T) / (U) / (V) / (W) / (X) / (Y) / (Z)

$$(f(-x) - x f(x) = \gamma |x| + 1) \times x \rightarrow x f(-x) - x^2 f(x) = \gamma |x| + x$$

$$f(x) + x f(-x) = \gamma |x| + 1 \rightarrow f(x) + x f(-x) = \gamma |x| + 1$$

$$f(x) = ? \quad \begin{cases} f(x) = \gamma x^2 - x - 1 & x > 0 \\ f(x) = \gamma x^2 - 3x + 1 & x < 0 \end{cases}$$

$$f(x) = \gamma x^2 - 3x + 1 \quad x < 0$$

(2)
1

$$f(x) \text{ و } f(x) = \gamma x^2 - 3x + 1 \xrightarrow{x=0} \gamma f(0) = 1$$

$$f(0) = 1$$

$$f(x) = \gamma x^2 - 3x + 1$$

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(2)
2

$$y = \frac{x^2 + 2x + 1}{x+1} \rightarrow y = x + 1 + \frac{1}{x+1}$$

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(2)
3

$$y = \gamma x^2 - \delta x + 1 \quad \left[-\frac{1}{\gamma}, +\infty \right)$$

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(2)
4

$$y = \sqrt{x^2 - 3x + 1}$$

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(2)
5

$$y = \frac{x^2 + 1}{x^2 - 1} \rightarrow \gamma f = 1R - \{1, 0\}$$

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$$y = \frac{x^2 + 1}{\sqrt{x^2 + 1}} \rightarrow \frac{x^2 + 1}{\sqrt{x^2 + 1}} + \frac{1}{\sqrt{x^2 + 1}}$$

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Elegance

$$R_f = IR - (-\frac{1}{2}, \frac{1}{2})$$

لحل المسألة

$$(y+1)(y-1)$$

نحل

$$y = \frac{3x^2 + 1}{x^2 - 1} \rightarrow y^2 + y - 1 = 0$$

$$\Delta = 1 + 4 = 5$$

$$y = \frac{-1 \pm \sqrt{5}}{2}$$

$$y = \frac{3x^2 + 1}{x^2 - 1} \rightarrow y = \frac{3x^2 + 1}{x^2 - 1}$$

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(2)

6

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

$$[-\frac{1}{2}, -\frac{1}{2}] =$$

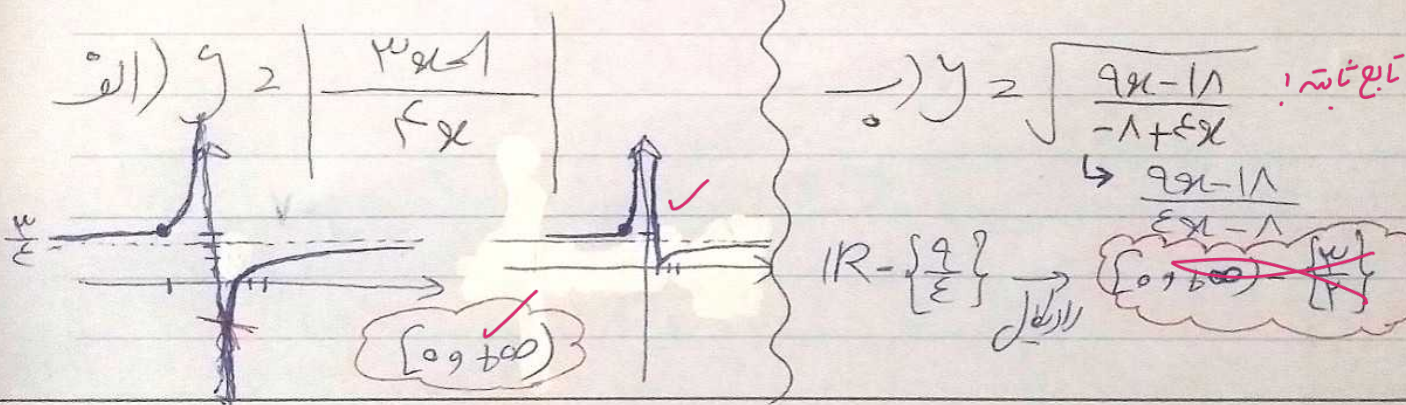
$$R_f = \emptyset$$

$$\sin x = 1 \rightarrow y = -1$$

$$\sin x = -1 \rightarrow y = -\frac{1}{2}$$

(2)

7



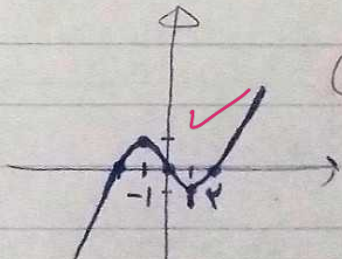
(1)

8

$$y = \frac{x^2 - 2x}{x^2 - 2x}$$

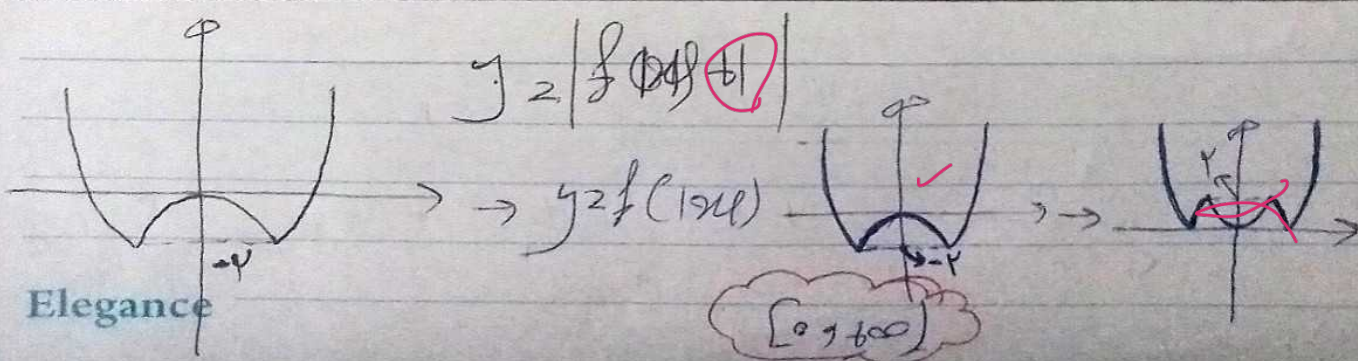
$$R_f = \emptyset$$

$$\frac{-x^2 - 2x}{x^2 - 2x}$$



(2)

9

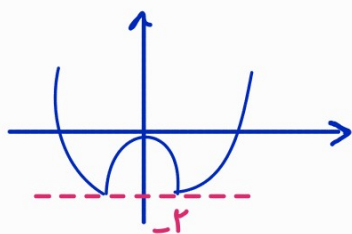


(15)

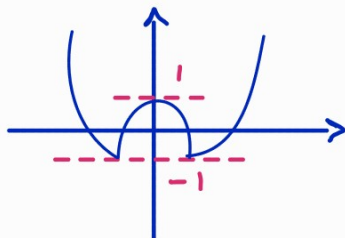
10

Elegance

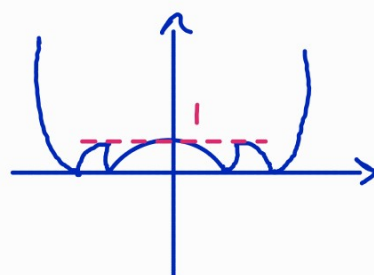
$$1-ب) y = \sqrt{\frac{a(x-r)}{f(x-r)}} = \sqrt{\frac{a}{f}} = \frac{r}{r} \rightarrow R_y = \left\{\frac{r}{r}\right\}$$



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



$$y = f(|x|) + 1$$



$$y = |f(|x|) + 1|$$

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