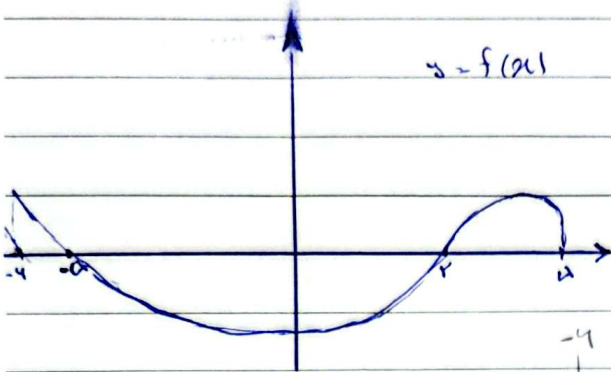


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$$y = f(x)$$

(۵)

$$y = \sqrt{x f(x)}$$

$$x f(x) \geq 0$$

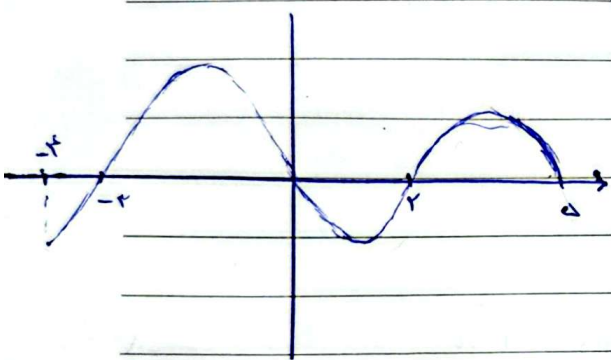
$$D_f = [-4, 0] \cup [2, 4]$$

	-4	-2	0	2	4
x	-	-	+	+	+
f(x)	+	+	-	-	+
	-	+	-	+	-

$$y = \sqrt{\frac{-x}{f(x)}}$$

$$f(x) \neq 0 \quad \frac{-x}{f(x)} \geq 0$$

(۵)



	-4	-2	0	2	4
-x	+	+	+	-	-
f(x)	-	+	+	-	+
	-	+	+	-	+

$$D_f = (-2, 0) \cup (0, 2)$$

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۱, -۱, -۲

(۵)

$$f(x) - x f(x) = x^2 - x + 4$$

$$f(x) - x f(x) = x^2 - x + 4$$

$$-f(x) = x \quad f(x) = -x$$

$$f(-x) = ? \quad f(-x) - f(x) = x^2 + x + 4$$

$$f(-x) + x = x^2 + x + 4 \quad f(-x) = 1$$

$$f(x) = \begin{cases} x - \sqrt{x+4} & ; x > 4 \\ x+4 & ; x \leq 4 \end{cases}$$

$$f(f(4)) + f(f(1)) = 9$$

$$4 - \sqrt{4} = 2 \quad 2+4 = 6 \quad 1+4 = 5$$

(۵)

$$f(n-1) - f(n) = 2n + 2$$

$$f(n) = an^2 + bn + c$$

5

$$a - b = ?$$

$$-5 - 2 = -7$$

$$a(n-1)^2 - b(n-1) + c$$

$$a(2n^2 - 2n + 1) - b(n-1) + c$$

$$2an^2 - 2an + a - bn + b + c - an^2 + 2n - 1$$

$$-2an + a + b$$

$$-2an$$

$$a = -2$$

$$a + b$$

$$-2 + b = 2$$

$$b = 4$$

$$\frac{(\sqrt{2}-1)^2 + f(\sqrt{2}-1) + 2}{(\sqrt{2}-1)^2 + f(\sqrt{2}-1) + 2}$$

$$(\sqrt{2}-1)^2 + f(\sqrt{2}-1) + 2$$

$$2 + 2 - 2\sqrt{2} + 2\sqrt{2} - 2 + 2$$

$$2 + 2 - 2\sqrt{2} + 2\sqrt{2} - 2 + 2$$

$$f(\sqrt{2}-1) = ?$$

$$f(n) = \frac{n^2 + 2n + 2}{n^2 + 2n + 2}$$

$$f\left(n - \frac{1}{n}\right) = \frac{n^2 + 1}{n^2}$$

$$f(-2)$$

5

$$\left(n - \frac{1}{n}\right)^2 = \frac{n^2 + 1}{n^2} - 2$$

$$f\left(n - \frac{1}{n}\right) = \frac{\left(n - \frac{1}{n}\right)^2 + 2}{\left(n - \frac{1}{n}\right)^2 + 2} = 1$$

$$f(n) = \{(2, 0), (1, -2), (0, 2), (4, 1)\}$$

$$g(n) = \sqrt{9 - 2n^2}$$

5

$$\frac{f}{g} = \left\{(2, 0), \left(1, \frac{-2}{\sqrt{7}}\right), \left(0, \frac{2}{\sqrt{7}}\right)\right\}$$

$$\frac{g}{f} = \left\{(0, \frac{2}{\sqrt{7}}), \left(1, \frac{-\sqrt{7}}{2}\right)\right\}$$

$$f(n) = \{(2, 1), (2, 4), (-5, 2), (1, -2)\}$$

5

$$2f(n) = \{(2, 2), (2, 8), (-5, 4), (1, -4)\}$$

$$f(n) + 1 = \{(2, 2), (2, 5), (-5, 3), (1, -1)\}$$

$$3f^2(n) + 1 = \{(2, 9), (2, 49), (-5, 13), (1, 13)\}$$

$$f^2(n) = \{(2, 1), \left(\frac{2}{\sqrt{7}}, \frac{4}{7}\right), \left(-\frac{5}{\sqrt{7}}, \frac{2}{7}\right), \left(\frac{1}{\sqrt{7}}, \frac{4}{7}\right)\}$$

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$$f(m) = \{ (2, 3), (7, 2), (1, 4), (3, 1), (5, 2) \}$$

$$g(m) = \{ (1, 0), (2, 1), (-1, 4), (-2, -3), (3, -1) \}$$

$$f - g = \{ (2, 2), (1, 4), (3, 4) \}$$

$$r \frac{f}{g} = \{ (2, 4), (3, -2) \}$$