

$2g - 3f =$
 $2g = (-1, 2), (0, 8), (1, 2)$
 $3f = (1, 0), (-1, 0)$
 $2g - 3f = \{-1, 1\} = \text{مجموع}$
 $f(x) = \sqrt{1-x^2}$
 $f(x)\sqrt{1-x^2} = -1 \rightarrow x=0$
 $f(x)\sqrt{1-x^2} = 1 \rightarrow x=0$
 $f(x)\sqrt{1-x^2} = 0 \rightarrow x=1$
 $f(x)\sqrt{1-x^2} = 2 \rightarrow x=1$

$f(x) = 2x - 1 \rightarrow D_f = [3, +\infty)$
 $R_f = [5, +\infty)$
 $g(x) = \frac{1}{x}x + 3 \rightarrow D_g = (-\infty, 3]$
 $R_g = (-\infty, 3]$
 $f, g \rightarrow \mathbb{R} - (3, 5)$

$y = -\frac{1}{x}x^2 - x + 3$
 $x_0 = \frac{-1}{2(-\frac{1}{x})} = 1$
 $y_0 = -\frac{1}{1} - 1 + 3 = \frac{1}{2}$
 $\sqrt{\frac{y}{x} - \frac{y^2}{x^2}} = \sqrt{r}$
 $(-\infty, \frac{1}{2})$
 $(a, b) \rightarrow (\frac{3}{r}, \frac{1}{r})$

$y = |x-1| + |x-3| + |2x+2|$
 $x=1 \rightarrow y=4$
 $x=3 \rightarrow y=12$
 $x=-2 \rightarrow y=2$

$y = |x| - 2|x+1|$
 $x=0 \rightarrow y=-2$
 $x=-1 \rightarrow y=1$
 $f(x) = \begin{cases} -x-2 & x > 0 \\ -x-2 & -1 < x \leq 0 \\ x+2 & x < -1 \end{cases}$

$$y = \frac{x^2 + \omega x + m}{x+1} \rightarrow \frac{x^2 + \delta x + \epsilon}{(x+1)(x+2)} \quad y = x+2 \quad R_f = \mathbb{R}$$

$M = \{5, 11, 13\}$

$$f(x) = \begin{cases} x+r & x \geq r \\ x^2 - rx + r & 0, 1/r \leq x < r \\ |x| + r & x < 0 \end{cases} \quad \xrightarrow{\text{Solving}} [1, +\infty)$$

$$f(x) = \begin{cases} x^2 + rx + r & x \leq 0 \\ [rx] - rx & x > 0 \end{cases} \quad R_f = (-1, 0] \cup [r, +\infty)$$

$-1 \leq [rx] - rx \leq 0$

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

Substituting

$$a - \sqrt{rb+r} = r$$

(4)

$$b = \frac{1}{r}$$

$$\sqrt{rx} \cdot \frac{1}{\sqrt{r}} = r = a \times b$$

$$f(x) = \sqrt{x+1} + \sqrt{1-x} \quad D_f = D_g$$