

1) $1^2 a + 1^2 = 1^2 a - 1^2 + a \rightarrow 1^2 a + 1^2 + a - 1^2 \rightarrow 1^2 a = -1^2 + a = -1^2 + a = \frac{a}{1}$

$f(x) = (a+1)x \rightarrow va+v$ $f(-x) = 1^2 a + (-x) = 1^2 a - x$

2) $(\sqrt{x} \sqrt{y})^2 = \sqrt{x}^2 = \sqrt{y}^2 \rightarrow \sqrt{x} = \sqrt{y}$
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3) $y f(x) - y f(-x) = f(x)^2 - x$
 $y f(-x) - y f(x) = f(x)^2 - x$
 $y f(x) - y f(-x) = f(x)^2 - x$

4) $y f(0) = 1^2 m - 1 \rightarrow y f(0) = 1^2 m - 1 = f(0)$
 $x = -x$
 $y f(0) = 1^2 m - 1 \rightarrow y f(0) = 1^2 m - 1 = f(0)$

$f(0) = \frac{y(\frac{y}{2}) - 1}{y} \rightarrow \frac{y^2}{4}$

5) $\frac{a}{x} + b = f(\frac{1}{x})$
 $f(x) + f(\frac{1}{x}) = a x + b + \frac{a}{x} + b$
 $a = x$ $b = -x$
 $f(x) = x - y(x - y)$

6) $f(x) \rightarrow (x-1)\sqrt{x-1}$
 $g(x) \rightarrow x^2 \rightarrow (1-x)^2 \rightarrow (1-x)\sqrt{x-1}$

7) $f(x) \rightarrow x^2 \rightarrow x\sqrt{x}$
 $g(x) \rightarrow x^2 \rightarrow x\sqrt{x}$

$\lambda) f(x) \rightarrow \text{لنا} \rightarrow x=0 \checkmark$ تابع زوج بله
 $g(x) \rightarrow x=0 \checkmark$ تابع فرد نه
 $\checkmark - \text{بله} \rightarrow x=0 \rightarrow x=0$

$q) f(1)=2 \quad g(1)=1$
 الف) $\frac{f(1)+g(1)}{f(1)-g(1)} = \frac{2+1}{2-1} = 3$

ج) $f(0) \rightarrow 0$
 $g(-1) \rightarrow 1$
 $0 \times 1 \rightarrow 0$

ب) $f(2)=3 \quad g(2)=2$
 $f(2)-g(2) \rightarrow 0 \rightarrow \text{تصریف نشود}$

$3x-1 \rightarrow f(x) \rightarrow \text{ملا} \quad 3x-1=-2 \rightarrow g(-\frac{1}{3})=f(-2)=2$
 الف) $\rightarrow \{(-\frac{1}{3}, 2) \text{ و } (0, 4) \text{ و } (\frac{1}{3}, 2) \text{ و } (1, 0) \text{ و } (-1, 0)\}$

ب) $|x| \rightarrow 0, 2, 3 \rightarrow \boxed{0, 2, 3} \rightarrow \{(-3, -1) \text{ و } (-2, 0) \text{ و } (0, 0) \text{ و } (1, 0) \text{ و } (2, 1)\}$