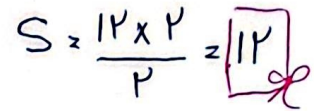


1

9

3



C

2



$-2 \quad 0 \quad 1 \quad 2$

$- \quad + \quad - \quad + \quad -$

$$D_g = [-r, 0] \cup [1, r]$$

2

$$P \rightarrow R \rightarrow T$$

$$R \rightarrow T \rightarrow W$$

$$W \rightarrow Y \rightarrow X$$

$$\text{Lag} = \{(P, T), (R, W)\}$$

6

$$g \circ f = \{(P, T), (R, T)\}$$

$$\text{Lag} = \{(P, W), (W, Y), (R, Y)\}$$

$$g \circ f - \text{Lag} = \{(P, Y)\}$$

7

$$f(f(-\sin^2 x)) = f(\cos^2 x) = 1 - \cos^2 x = \sin^2 x$$

$$\hookrightarrow \cos^2 x, 0$$

$$-\sin^2 x < 0 \Rightarrow f(-\sin^2 x) = 1 - \sin^2 x = \cos^2 x$$

8

$$x = P \rightarrow Pf(P) = 1 \rightarrow f(P) = T \Rightarrow f(x) = Px - P$$

$$f(Px - P) = 9x - 1 \xrightarrow{x=0} y = -1$$

9

$$\text{Lag} = f(x^2 - 4x + 1) = Px^2 - 4x + 1 \quad \text{Lag} = g \circ f \quad Px^2 - 4x + 1 = f(x^2 - 4x + 1)$$

$$g \circ f = g(Px - W) = Px^2 - 4x + 1 \quad Px^2 - 4x + 1 = 0$$

$$\alpha^2 - \beta^2 = S^2 - 4P = 100 - 36 = 64 \quad 1.$$