

تکلیف ۲۸
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بصافه

با طه حکیم الهی

$$ax^r + ra = ax^r - \epsilon \Rightarrow \boxed{a = -r} \quad (1)$$

$$\begin{aligned} \xrightarrow{1^r} f(m) = \frac{r+a}{r-b} = r & \quad \xrightarrow{1^r} g(m) = r+b = r \Rightarrow b = -1 \quad (2) \\ \parallel & \end{aligned}$$

$$\frac{r+a}{r+1} = r \Rightarrow a = 1 \quad f(1) = \frac{1+1}{r+1} - \frac{1^r}{r} = \frac{r}{r}$$

$$x = -1 \rightarrow r(-1)^r + a(-1) + b = 0 \Rightarrow r - a + b = 0 \quad (3)$$

$$\begin{aligned} x = r \rightarrow r(r^r) + r(a) + b = 0 & \Rightarrow r^2 + ra + b = 0 \\ -r^2 - 2a = 0 & \Rightarrow a = -r \\ a + b = -r - 1 = \boxed{-1-r} & \quad b = -1 \end{aligned}$$

$$-1 = \frac{r}{r} \quad (4)$$

$$x^r + \frac{-a}{r}x + \frac{-b}{r} = 0 \quad \xrightarrow{x=-1} 1 + \frac{a}{r} - \frac{b}{r} = 0$$

$$\xrightarrow{x^r} r + a - b = 0 \Rightarrow r + a = b$$

$$-r^2 + a^2 + r + a = 0 \Rightarrow \dots$$

$$\dots \Rightarrow \Delta = 0 \Rightarrow a^2 - r(r+a) - r^2 = 0$$

$$a^2 + 4r + 19a = 0 \Rightarrow (a+1)^2 = 0 \Rightarrow a = -1 \Rightarrow$$

$$b = -r \quad a + b = -1 - r = \boxed{-1-r}$$

