

$$f\left(\frac{m+1}{n-r}\right) = f_m + a \quad t = \frac{m+1}{n-r} \quad 9$$

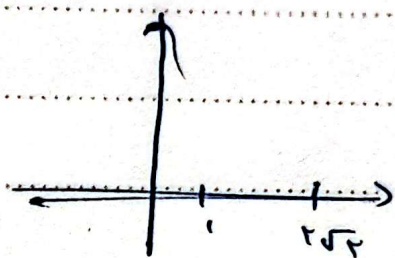
$$f(t) = k \frac{rt+1}{t-c} + a \quad m = \frac{rt+1}{t-c}$$

$$f(t) = \frac{rt+c+at-1a}{t-c}$$

$$f(m) = 1, 2, \sqrt{r}$$

gafm) (gafm) ✓
ملاحظة

$$r-1=1$$



1, \sqrt{r}

$$F = \{(r, 1), (r, r), (r, r), (1, v)\}$$

$$g = \{(1, r), (r, 1), (a, a), (b, 1)\}$$

$$a = r$$

$$b = a$$

$$(a, b) = (r, a)$$

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$$f(n) = an + b$$

$$f(f(n)) = cn + d \quad (9)$$

$$f \circ f(n) = a(an + b) + b = cn + d$$

$$a = r \quad b = 1$$

$$g(rn + r) = rn - r$$

$$g(n) = an + b = a(rn + r) + b$$

$$ran + ra + b = rn - r$$

$$a = 1 \quad b = -2r$$

$$f(-1) = r(-1) + 1 = -1$$

$$g(-1) = 1 \cdot r(-1) - 2r = -r$$

$$\{g \circ f\} \text{ is } g(n) = \frac{1}{n^2 - 1} \quad g(f(n)) = \sqrt{n+1} \quad (10)$$

$$n \in D_f$$

$$n + |n| \neq 1 \quad (11)$$

$$f(n) \in D_g, n \neq 0, 1$$

$$1 \in [-\infty, 0] \quad \checkmark$$

$$D_{g \circ f} \Rightarrow (-\infty, +\infty) - \{1\}$$

$$(f+g) \text{ is } g(n) = \sqrt{n}, f(n) = \sqrt{1-n^2} \quad (12)$$

$$f(f(n)) + g(f(n)) \Rightarrow f(n) \geq 0 \quad (13)$$

$$f(n) \in [-1, 1]$$

$$\sqrt{1-n^2} \geq 0$$

$$1 \geq n^2$$

$$n \in [-1, 1]$$

$$n \Rightarrow 0 \quad \checkmark$$

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B. pozit. G. l. e. l. i. i.

$$f \circ f \left(\frac{1}{n} \right) \text{ is } f(n) = \begin{cases} \frac{1}{n} & n \leq 1 \\ \sqrt{n^2+1} & n > 1 \end{cases}$$

$$f \left(\frac{1}{\sqrt{2}} \right) = \sqrt{2}$$

$$\sqrt{(\sqrt{2})^2+1} = 2$$

$$f \circ f \left(\frac{1}{\sqrt{2}} \right) \text{ is } g(n) = 2 \text{ is } f \left(\frac{1}{n} \right) = \sqrt{\frac{n^2-1}{n^2}}$$

$$g \left(\frac{1}{\sqrt{2}} \right) = 2 \times \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = 1$$

$$f \left(\frac{1}{\sqrt{2}} \right) = \sqrt{\frac{2-1}{2}} = \frac{1}{\sqrt{2}}$$

$$f(n) = [n] \quad g(n) = \frac{n}{1-n} \quad f \circ g \left(\frac{1}{\sqrt{2}} \right)$$

$$g \left(\frac{1}{\sqrt{2}} \right) = -\sqrt{2}-1$$

$$f(n) \rightarrow -1$$

$$\left[\frac{\sqrt{2}}{1-\sqrt{2}} \right] = \left[1 - \frac{1}{1-\sqrt{2}} \right] = 0$$

$$g \circ f \left(\frac{1}{\sqrt{2}} \right) \text{ is } g(n) = n \sqrt{1-n^2} \text{ and } f(n) = \sin n$$

$$f \left(\frac{1}{\sqrt{2}} \right) = \frac{\sqrt{2}}{2} \rightarrow \frac{\sqrt{2}}{2} \sqrt{1-\frac{1}{2}} = \frac{\sqrt{2}}{2} \times \frac{1}{\sqrt{2}} = \frac{1}{2}$$

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