

م و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره کلاس

$$f(n+1) = \left(\frac{1}{p}\right)^{n+1} - 1 + 1 = \left(\frac{1}{p}\right)^{n+1}$$

$$\lim_{n \rightarrow \infty} \left(\frac{1}{p}\right)^{n+1} - 1 \geq 0$$

$$\left(\frac{1}{p}\right)^{n+1} = 0 \rightarrow n+1 = 0 \rightarrow n = -1$$

$$\frac{0}{-p} + \frac{1}{p} =$$

$$D_f = [0, 1]$$

$$f(-n) = \sqrt{-n+1-n+2} \Rightarrow -n+1-n+2 \geq 0$$

$$\frac{0}{+p} + \frac{1}{p} =$$

$$D_f = (-\infty, 1]$$

$f(n) \neq 3, 2, 1 \rightarrow$ موج منفی
 $\frac{n-1}{f(n)} \geq 0 \rightarrow (2, 3) \cup (-\infty, 1]$
 نمودار هم علامت است در این بازه ها ریزه را دنبال می شود و در نقطه اوج می رسد
 صورت است را دنبال می شود (تا خود منفی می شود و بابت منفی می شود)

$$3n^3 + an + b = 3n^3 - n - 3 \rightarrow a = -1$$

$$\rightarrow b = -3$$

$$\rightarrow \sqrt{-(a+b)} = 2$$

$$\frac{1}{9n^2 - 6n^2 - 4n - 3} \sim \frac{1}{3} = \frac{1+\sqrt{3}}{2}$$

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$$\sqrt{f(n) - f\left(\frac{\epsilon}{n}\right)} = \sqrt{n^3 - \frac{\epsilon}{n^3} - \frac{\epsilon}{n^3}} \sim \frac{(n^3 - \epsilon)(n^3 + \epsilon)}{n^3} \geq 0$$

$$D_f = [-\infty, 0) \cup [1, \infty)$$

$n = 2 \rightarrow f(0) = 1$ $n^2 + n = 2 \rightarrow n(n+1) = 2 \rightarrow n = 1 \rightarrow f(1) = 1$ $f(0) + f(1) = 1$	6
$f(n) = n^2 - 4n^2 + 12n \rightarrow (n-2)^2 + 1$ $g(n) = n^2 + 9n^2 + 12n$ $\downarrow$ $(n+3)^2 - 2$ $\frac{g(\sqrt{2}-3)}{f(\sqrt{2}+3)} = \frac{-10}{10} = -1$	7
$f(n) = \sqrt{n+2} + \sqrt{n-2} - 2 = (\sqrt{n-2}-2)^2 - \sqrt{(\sqrt{n-2}+2)^2}$ $ \sqrt{n-2}-2 + \sqrt{n-2}+2 \Rightarrow \sqrt{n-2}-2 + \sqrt{n-2}+2 = 2\sqrt{n-2} = a+b\sqrt{n-2}$ $\frac{a+b}{c} = \frac{1}{-2} \left(\frac{-1}{2} \right) \leftarrow$ $a+b=2$ $c=-2$	8
$f(n) = f(2, -1), (0, \frac{2}{3})$ $\frac{g}{f} = \left(\frac{2}{-1}, -\frac{1}{2} \right) \left(\frac{0}{4} \right)$ $\frac{1}{-2}$ $\frac{2}{3}$	9
1) $f(x) = f(\frac{1}{2}, 2), (1, 2), (2, 2), (-\frac{1}{2}, 4)$ 2) $f(x^2) = f(\pm 1, 2), (\sqrt{3}, -1), (\pm 2, 2), (\sqrt{-1}, 4)$ 3) $2g(x) + 1 = f(-2, 1), (1, 3), (3, 9), (-1, 1)$ 4) $\frac{2f}{3} = (1, -1), (3, -1), (-1, \frac{1}{3})$ $2f = \{(1, 1), (3, -2), (4, 12)\}$	10