

الف) $\lim_{n \rightarrow +\infty} \frac{n+5}{n+1} = 1$ ب) $\lim_{n \rightarrow -\infty} \frac{n+5}{n+1} = 1$ ج) $\lim_{n \rightarrow +\infty} \frac{n+5}{n+1} = 1$ د) $\lim_{n \rightarrow +\infty} \frac{n+5}{n+1} = 1$ (1)

الف) $\lim_{n \rightarrow +\infty} (n-2) = \infty$ ب) $\lim_{n \rightarrow +\infty} (n-2) = \infty$ ج) $\lim_{n \rightarrow +\infty} (n-2) = \infty$ د) $\lim_{n \rightarrow +\infty} (n-2) = \infty$ (2)

الف) $\lim_{n \rightarrow +\infty} \frac{n^2+1}{2} = \infty$ ب) $\lim_{n \rightarrow +\infty} \frac{n^2+1}{2} = \infty$ ج) $\lim_{n \rightarrow +\infty} \frac{n^2+1}{2} = \infty$ د) $\lim_{n \rightarrow +\infty} \frac{n^2+1}{2} = \infty$ (3)

الف) $\lim_{x \rightarrow 0} \frac{x-5}{x^2-4x+5} = \frac{-5}{5} = -1$ ب) $\lim_{x \rightarrow 0} \frac{x-5}{x^2-4x+5} = \frac{-5}{5} = -1$ (4)

الف) $\lim_{x \rightarrow -1} [-x^2] - [5x] = -1 - (-5) = 4$ ب) $\lim_{x \rightarrow -1} [-x^2] - [5x] = -1 - (-5) = 4$ (5)

الف) $\lim_{x \rightarrow 1} (x^3 - 3x^2 + 3) = 1 - 3 + 3 = 1$ ب) $\lim_{x \rightarrow 1} (x^3 - 3x^2 + 3) = 1 - 3 + 3 = 1$ (6)

الف) $\lim_{x \rightarrow 2} \frac{x^2-1}{x^2-4} = \frac{3}{0} = \infty$ ب) $\lim_{x \rightarrow 2} \frac{x^2-1}{x^2-4} = \frac{3}{0} = \infty$ (7)

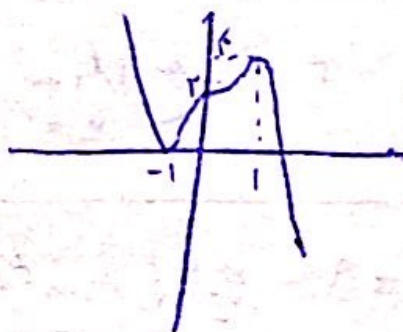
الف) $\lim_{n \rightarrow \frac{\pi}{2}} \sqrt{\cos n} = 0$ ب) $\lim_{n \rightarrow \frac{\pi}{2}} \sqrt{\cos n} = 0$ (8)

الف) $\lim_{x \rightarrow +\infty} \frac{(-1)^{\sin x}}{x^2-2x} = \frac{1}{\infty} = 0$ ب) $\lim_{x \rightarrow +\infty} \frac{(-1)^{\sin x}}{x^2-2x} = \frac{1}{\infty} = 0$ (9)

الف) $\lim_{x \rightarrow 2} \frac{x^2 - [x^2]}{x - [x]} = \frac{0}{0} = 0$ ب) $\lim_{x \rightarrow 2} \frac{x^2 - [x^2]}{x - [x]} = \frac{0}{0} = 0$ (10)

١) $5x^3 - 3x^5 + 2 \xrightarrow{\text{نقطة}} y = 15x^2 - 15x^4 \rightarrow y = 15x^2(1-x^2) \xrightarrow{\text{نقطة}} x = 0, 1, -1$

x	-1	0	1
y'	-	+	+
y	↘	↗	↘
	①	②	④



ب) $x^4 - 2x^2 + 3 \xrightarrow{\text{نقطة}} y = 4x^3 - 4x \rightarrow y = 4x(x^2 - 1) \xrightarrow{\text{نقطة}} x = 0, 1, -1$

x	-1	0	1
y'	-	+	-
y	↘	↗	↘
	①	③	②

