

1) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 1) $\frac{q^-}{s^-} = \boxed{3}$ | 1) $\frac{q^+}{s^+} = \boxed{3}$ | 1) $\frac{q^-}{s^-} = \boxed{3}$

2) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 2) $\frac{q^-}{s^-} = \boxed{3}$ | 2) $\frac{q^+}{s^+} = \boxed{3}$ | 2) $\frac{q^-}{s^-} = \boxed{3}$

3) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 3) $\frac{q^-}{s^-} = \boxed{3}$ | 3) $\frac{q^+}{s^+} = \boxed{3}$ | 3) $\frac{q^-}{s^-} = \boxed{3}$

4) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 4) $\frac{q^-}{s^-} = \boxed{3}$ | 4) $\frac{q^+}{s^+} = \boxed{3}$ | 4) $\frac{q^-}{s^-} = \boxed{3}$

5) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 5) $\frac{q^-}{s^-} = \boxed{3}$ | 5) $\frac{q^+}{s^+} = \boxed{3}$ | 5) $\frac{q^-}{s^-} = \boxed{3}$

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7) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 7) $\frac{q^-}{s^-} = \boxed{3}$ | 7) $\frac{q^+}{s^+} = \boxed{3}$ | 7) $\frac{q^-}{s^-} = \boxed{3}$

8) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 8) $\frac{q^-}{s^-} = \boxed{3}$ | 8) $\frac{q^+}{s^+} = \boxed{3}$ | 8) $\frac{q^-}{s^-} = \boxed{3}$

9) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 9) $\frac{q^-}{s^-} = \boxed{3}$ | 9) $\frac{q^+}{s^+} = \boxed{3}$ | 9) $\frac{q^-}{s^-} = \boxed{3}$

10) $\frac{1}{s+1} = \frac{F(s)}{G(s)} = \frac{q^+}{s^+} = \boxed{3}$ | 10) $\frac{q^-}{s^-} = \boxed{3}$ | 10) $\frac{q^+}{s^+} = \boxed{3}$ | 10) $\frac{q^-}{s^-} = \boxed{3}$

7. (ب) $\frac{-\sin}{2\sin\cos} = \frac{-1}{2\cos} = \frac{-1}{2} = -\frac{1}{2}$

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حد ندارد $\frac{1}{2\cos} = \frac{1}{2} = \frac{1}{2}$ ✓

8. (الف) $\sqrt{0+} = 0$ حد دارد
 $\sqrt{0-} = 0$ ✓

ت ن زیر را دنبال منفی شده $\sqrt{x-2}\sqrt{0+} = \sqrt{-x-2+} = \sqrt{0+ - 2+} = \sqrt{-2+}$
 $\sqrt{x-2}\sqrt{0-} = \sqrt{-x-2-} = \sqrt{0- - 2-} = \sqrt{-2-}$ حد ندارد ✓

سوال هفت ب برای 0+، 0-، 0 درست؟؟ به عبارت از دامنه که تابع استفاده کنی!

9. (الف) $0+ \rightarrow [\sin x] = 0 \rightarrow \frac{-1^0}{0-} = \frac{1}{0-} = -\infty$
 $\frac{-1}{x^3 - 2x} = \frac{-1}{x(x^2 - 2)} = \frac{-1}{x(x-2)(x+2)}$ ✓

9. (ب) $\frac{(x-2)(x+2)}{x-2} = x+2$ حد دارد
 $\frac{x^2 - 4}{x - 2} = \frac{(x-2)(x+2)}{x-2} = x+2$ ✓

$$x - 2\sqrt{x} \geq 0 \rightarrow \sqrt{x}(\sqrt{x} - 2) \geq 0 \quad \text{II}$$

سوال ۸-ب

$$x \geq 4$$

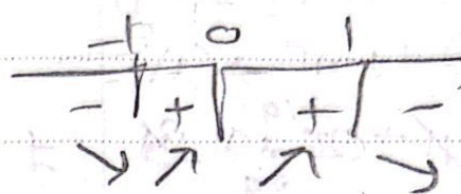
$$x \geq 0 \quad \text{I}$$

تبرایمان شرطیست $x=0 \leq x \leq 4 \rightarrow$ در سب

$$\lim_{x \rightarrow 0} \sqrt{x - 2\sqrt{x}} = \infty$$

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$$f(x) = x^2 - 1 \Rightarrow f'(x) = 2x \quad \text{الف}$$



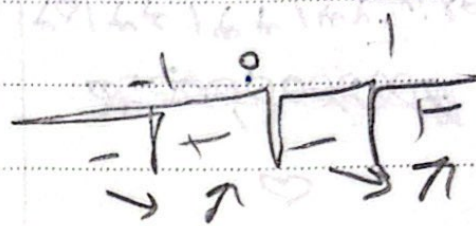
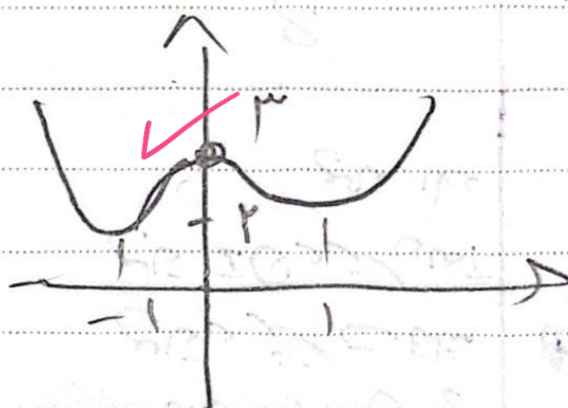
$$\begin{aligned} x=0 &\rightarrow y=-1 \\ x=-1 &\rightarrow y=0 \\ x=1 &\rightarrow y=0 \end{aligned}$$

$$f(x) - f(x) = f(x)(x^2 - 1)$$

$$x=-1 \rightarrow y=0$$

$$x=0 \rightarrow y=-1$$

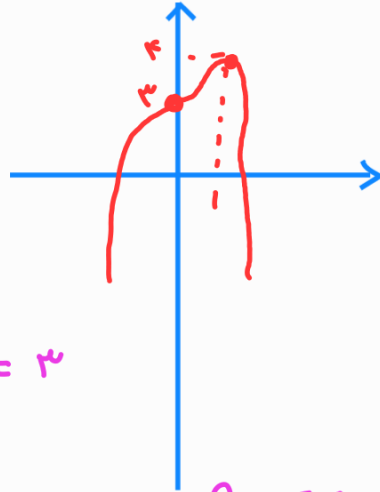
$$x=1 \rightarrow y=0$$



$$y = [\epsilon n^r - r n^2 + r] \rightarrow y' = 1r n^r - 1r n^2 \rightarrow y'_{z.} \rightarrow 1r n^r (1-n) = 0 \quad -4$$

$n=0, n<1$

	*		
y'	-	-	+
y	↘	↘	↗



ا) $\lim_{n \rightarrow 1} [\epsilon n^r - r n^2 + r] = [\epsilon^-] = r$

ب) $\lim_{n \rightarrow 0} [\epsilon n^r - r n^2 + r] = \begin{cases} \rightarrow n > 0 \rightarrow \lim[y] = [\epsilon^+] = r \\ \rightarrow n < 0 \rightarrow \lim[y] = [\epsilon^-] = r \end{cases}$