

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره: کلاس: B

الف) $y'' = 2x - 1 \rightarrow y' = x^2 - x + C_1$
 $y' = 0 \rightarrow x^2 - x + C_1 = 0$
 $x_1 = x_2 \rightarrow y_1 = y_2$ ✓

ب) $y'' = 2x - 1 \rightarrow y' = x^2 - x + C_1$
 $y' = 0 \rightarrow x^2 - x + C_1 = 0$
 $x_1 = x_2 \rightarrow y_1 = y_2$ ✓

الف) $y = x^2 - 1$ ✓

ب) $|1+x| = x^2 + 1 \rightarrow x=0 \rightarrow |1+0| = 1 \rightarrow y = -1 \times$

ج) $y'' + x'' = 2x - 1 \rightarrow y'' = 2x - x'' - 1$
 $x=0 \rightarrow y'' = -1 \rightarrow y = -1$ ✓

د) $\sqrt{y} + \sqrt{x} = 2 \rightarrow \sqrt{y} = 2 - \sqrt{x} \rightarrow y = (2 - \sqrt{x})^2 \rightarrow y = 4$ ✓

الف) $\tan \frac{\pi}{4} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

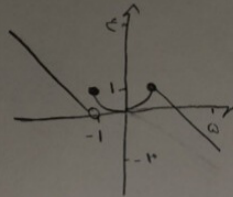
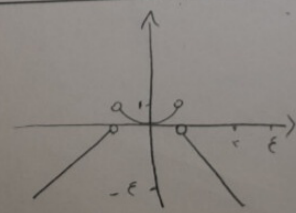
ب) $\cot \frac{\pi}{4} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

ج) $\tan 3\pi/4 = \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1$

د) $\cot 180^\circ = \frac{-1}{0} \rightarrow$ تعریف نشده

الف) $\sin a = \frac{1}{\sqrt{2}} \rightarrow a = 45^\circ \text{ و } 135^\circ$
 $\downarrow \quad \downarrow$
 $\frac{\pi}{4} \quad \frac{3\pi}{4}$

ب) $\cos a = \frac{\sqrt{2}}{2} \rightarrow a = 45^\circ \text{ و } 315^\circ$
 $\downarrow \quad \downarrow$
 $\frac{\pi}{4} \quad \frac{7\pi}{4}$



الف) $y = (x-2)(x-3)(x-4)$
 $D_f = \mathbb{R}$

ب) $y = (x-2)(x-3)(x-4)$
 $D_f = \mathbb{R}$

الف) $y = \frac{(x-2)(x-4)}{x-3} \rightarrow x-3 \neq 0 \rightarrow x \neq 3$
 $D_f = \mathbb{R} - \{3\}$

ب) $y = \frac{(x-2)(x-4)}{(x-3)^2} \rightarrow (x-3)^2 \neq 0 \rightarrow x \neq 3$
 $D_f = \mathbb{R} - \{3\}$

الف) $y = \frac{x^3 - 3x + 2}{x - 2} \rightarrow x - 2 \neq 0 \rightarrow x \neq 2$
 $D_f = \mathbb{R} - \{2\}$

ب) $y = \frac{x^3 - 3x + 2}{x^2 - 5x + 4} \rightarrow x \neq 1, x \neq 4$
 $D_f = \mathbb{R} - \{1, 4\}$

الف) $y = \frac{x^2 - x^3}{x^2 + x + 2} \rightarrow x^2 - x^3 = x^2(x-1) \rightarrow x^2(x-1)(x+1)$
 $x^2 + x + 2 > 0$

ب) $y = \frac{x^2 + 2x + 4}{x^2 + 2x + 3} \rightarrow x^2 + 2x + 4 > 0$
 $x^2 + 2x + 3 > 0$

حاصل ضرب مثبت است