

نام و نام خانوادگی: ... شماره: ... کلاس: ...

$$A \times B - B^p = I - II \quad (192) \quad (193)$$

$$I = [(192) (193) (194) (195) (196)]$$

$$II = [(197) (198) (199) (200)]$$

الف) $m^p = m + p \Rightarrow m^p - m - p = 0 \Rightarrow (m+1)(m-p) = 0$

$m = -1$ or $m = p$

ب) $m^p = m + p \Rightarrow m^p - m - p = 0 \Rightarrow (m+1)(m-p) = 0$

$m = -1$ or $m = p$

$$x = 1 \Rightarrow x^p - 1 = a x + b \Rightarrow 0 = a + b \Rightarrow a + b = 0$$

$$x = p \Rightarrow a x + b = x^p \Rightarrow p a + b = a \Rightarrow \begin{cases} a + b = 0 \\ p a + b = a \end{cases}$$

$$a \times b = -9$$

$$x = k \Rightarrow p x - p = k \Rightarrow p k - p = k - p \Rightarrow p k = k$$

$$\frac{p k}{k} = \frac{p}{1} \Rightarrow p = 1$$

نقطه اقصای بی‌نهایت و رسم می‌کنیم

$$x > 1 \Rightarrow x + p > 1$$

$$-1 \leq x < 1 \Rightarrow x > -1$$

$$x < -1 \Rightarrow x < -1$$

$$D_f = \mathbb{R} - \{1\} \quad R_f = (-\infty, 1]$$



الف) $2y^3 + x^2 + 1 = 0$ (تعريف) $\begin{cases} yg' = -x + 1 \\ yg'' = -x - 1 \end{cases} \Rightarrow yg' = yg''$
 $x=0 \rightarrow y' = -1 \rightarrow y'' = \frac{1}{y} \rightarrow y = \sqrt{\frac{1}{y}} \quad \checkmark$

ب) $x^2 + 4y - x - 12y + 10 = 0 \rightarrow (4y - 12y + 1) + (x^2 - 2x + 1) = 0$
 $(4y - 12)^2 + (x - 1)^2 = 0$
 $4y - 12 = 0 \rightarrow y = 3 \quad x - 1 = 0 \rightarrow x = 1$

الف) $x \sin y = y \sin x \rightarrow x \sin y = y \sin 0$
 $x=0$

ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$
 $\frac{y^2 + x^2}{xy} = 2 \rightarrow y^2 + x^2 = 2xy$
 $x - y = 0 \rightarrow x = y$

الف) $\sqrt{\frac{x-1}{x-2}} + \sqrt{\frac{2-x}{x}} = 2$
 $I) \frac{x-1}{x-2} \geq 0$
 $II) \frac{2-x}{x} \geq 0$

ب) $\sqrt{x} + \sqrt{y-1} = \sqrt{2}$
 $x \geq 0, y-1 \geq 0 \rightarrow y \geq 1$

الف) $y = \sqrt{x^2 - 4x + 4} \rightarrow (x-4)(x-1) \geq 0$
 $(x-1)(x-2) > 0$
 $x < 1 \text{ or } 2 < x < 4 \text{ or } x > 4$

الف) $(I) 2x^2 - \omega x + 3 > 0$
 $(II) 3x^2 - \sqrt{x+3} > 0$
 $D = (-\infty, 1) \cup (\frac{1}{\omega}, +\infty)$