

دالف $y''' - x = 2x^2 \rightarrow y''' = 2x^2 + x \rightarrow y'' = x(2x+1) \rightarrow y' = \frac{x^2}{2}(2x+1) \rightarrow y = \frac{x^4}{8} + \frac{x^3}{6} + C$
 د ب $y''' = y' \Rightarrow x(2x+1) = x(2x+1)$ ۱- $y' = x(2x+1) \rightarrow y'' = x(2x+1) \rightarrow y = \frac{x^4}{8} + \frac{x^3}{6} + C$

د ب $|y| + x^2 = x + 3 \rightarrow |y| = x - x^2 + 3$
 $|y| = x - x^2 + 3$
 $|y| = x - x^2 + 3 \rightarrow y = \frac{x^2}{2} + 3$

د ج $\sqrt{x-4} + |y-2| = 0 \rightarrow -\sqrt{x-4} = -|y-2|$
 $x \geq 4$
 $(4, 2)$ -0-0=|y-2|
y=2

د د $x = \cos y \rightarrow \frac{x}{1} = \frac{\cos y}{1} \dots$ کتاب شیب

دالف $y = \frac{x+4}{x^2-4x} \rightarrow x^2-4x \rightarrow x(x-4)=0 \rightarrow x=0 / x=4$
 $D_f = \mathbb{R} - \{0, 4\} / (-\infty, 0) \cup (0, 4) \cup (4, +\infty)$ -2

د ب $y = \frac{x+4}{x^2-4x+4} \rightarrow \Delta = 4^2 - 4 \cdot 4 \rightarrow \Delta < 0 \rightarrow$ مرحله ندارد
 $D_f = \mathbb{R} / (-\infty, +\infty)$

د ج $y = \frac{x+4}{x^2+x+4} \rightarrow \Delta = 1 - 16 \rightarrow \Delta < 0 \rightarrow$ مرحله ندارد
 $D_f = \mathbb{R} / (-\infty, +\infty)$

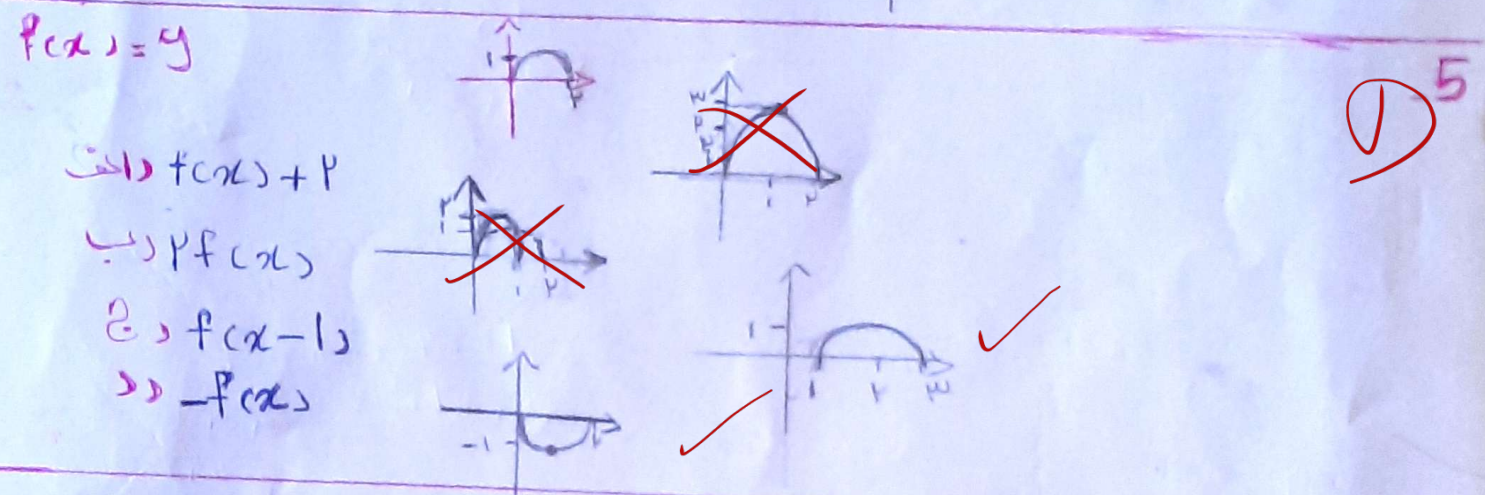
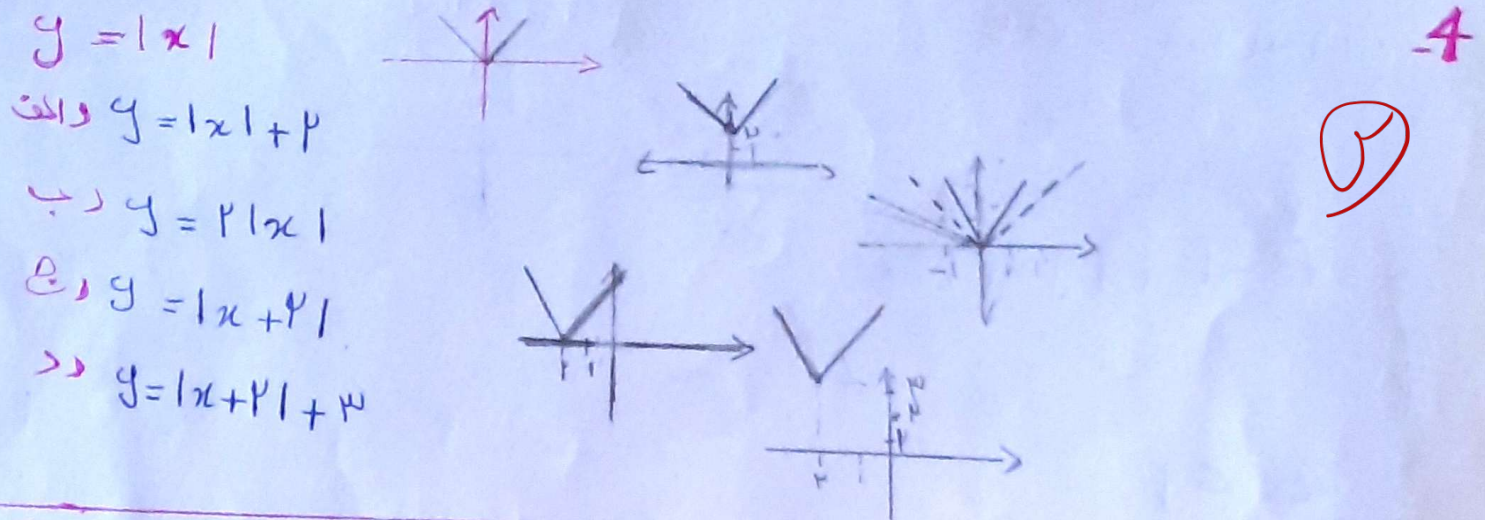
د د $y = \frac{x+4}{x^2-4x^2} \rightarrow x^2(x^2-4)=0 \rightarrow x=0 / x=\pm 2$
 $D_f = (-\infty, -2) \cup (-2, 0) \cup (0, 2) \cup (2, +\infty)$

دالف $y = \sqrt{4-x} + \sqrt{x-2}$
 $x \leq 4 \cup x \geq 2 \rightarrow (-\infty, 4] \cup [2, +\infty)$ ۱, ۲ و ۳

د ب $y = \frac{3x+1}{x^2+1} \rightarrow$ مرحله ندارد $D_f = \mathbb{R}$ ✓

د ج $y = \sqrt{x-2} \rightarrow x \geq 2$
 $x=2 \rightarrow x=2$ $D_f = \mathbb{R} - \{x=3\} / [2, 3) \cup (3, +\infty)$ ✓

$\Rightarrow \frac{p}{x+p} \begin{cases} x > 0 \rightarrow x+x \rightarrow x(x+1) \rightarrow 0 > -1 \\ x < 0 \rightarrow x^p - x \rightarrow x(x-1) \rightarrow 0 > 1 \end{cases} \} 0 > 1 > -1$
 $D_f = (-\infty, -1) \cup (-1, 0) \cup (1, +\infty)$



الف $(x - p)(x - q)(x - r) = y \rightarrow x = p, x = q, x = r$
 $- \quad + \quad - \quad +$
 ب $(x - p)(x - q)(x - r) = y \rightarrow x = p, x = q, x = r$
 $+ \quad - \quad + \quad -$

الف $y = \frac{(x - p)(x - q)}{x - r} \rightarrow x = p, x = q, x = r$
 $- \quad + \quad - \quad +$
 ب $y = \frac{(x - p)(x - q)}{(x - r)^2}$
 $- \quad + \quad - \quad +$

دالف $\frac{x^p - px + p}{x - p} = y \rightarrow x = p$

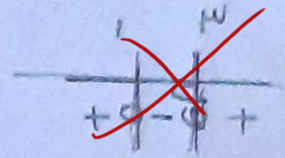
$x^p + x + p \Rightarrow$

$\Delta < 0 \rightarrow (x-1)$

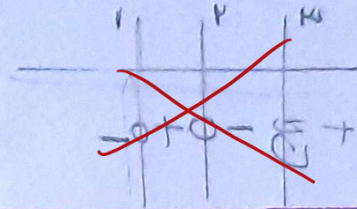
$x = 1$

دب $y = \frac{x^p - px + p}{x - p} \rightarrow (x-p)(x-1) \rightarrow x = p, x = 1$
 $x - p \rightarrow p = x$

$\frac{x^p - px + p}{x - p} = y$
 $\frac{x^p - px + p}{x - p} = y$
 $\frac{x^p - px + p}{x - p} = y$
 $\frac{x^p - px + p}{x - p} = y$



0, 2, 8

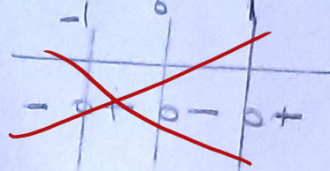


0, 2

دالف $\frac{x^p - x^p}{x^p + x + p} = y$

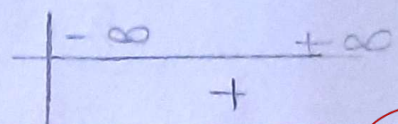
$x^p (x^p - 1) \rightarrow x^p (x-1)(x+1) \rightarrow x=0, x=1, x=-1$

$\Delta < 0$



دب $y = \frac{x^p + px + p}{x^p + px + p}$
 $\Delta < 0$

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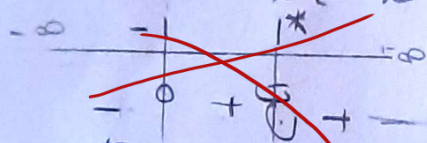


1, 2

دالف $y = \sqrt{\frac{x^p - 1}{x^p - x}} \rightarrow (x-1)(x^p + 1 + x) \rightarrow x = 1$

$\Delta < 0$

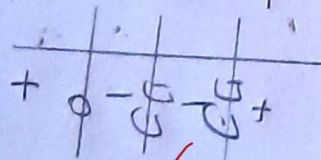
$x^p (x^p - 1) \rightarrow x^p (x+1)(x-1) \rightarrow x=1, x=-1$



0, 2

دب $y = \sqrt{\frac{x^p - 1}{x^p - px + p}} = (x+p)(x-p) \rightarrow x = +p, x = -p$

$x - p, (x - 1) \rightarrow x = +p, x = 1$



$(1, +infinity) \cup (-infinity, -p)$

0, 1, 2

1, 2, 3, 4