نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۷ کلاس دهم B .....

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$x^2 - ax + b$ $\quad \frac{1 \quad 3}{+ \; - \; +}$ $\Rightarrow x^2 - 4x + 3 = x^2 - ax + b$

$\Rightarrow a = +4 \quad b = 3 \Rightarrow a + b = +7$

۲

$y = ((k-2)x + m - 1)(x - 2n)^2 \Rightarrow x - 2n = 0 \Rightarrow x = 2n = -1 \Rightarrow n = -\frac{1}{2}$

$\Rightarrow y = ((k-2)x + m - 1)(x + 1)^2 \Rightarrow 4k - 8 + m = 0 \;,\; (k-2) < 0$

$\Rightarrow k < 2$ طبیعی $\Rightarrow k = 1 \Rightarrow m = 8 \Rightarrow \frac{m}{k} + 1k = -14$

۳

$y = -\frac{1}{2}x^2 + 2x + 4 \Rightarrow -\frac{1}{2}x^2 + 2x + 4 > \frac{7}{2}$

$\Rightarrow -\frac{1}{2}x^2 + 2x + \frac{1}{2} > 0 \Rightarrow \frac{-1 \quad 4}{- \; + \; -}$ $\Rightarrow (-1, 4)$

$\Rightarrow a = -1 \quad b = 4 \Rightarrow \max \; b - ac = \frac{9}{2}$

۴

$f(x) = x^3 - 3x^2 - x + 3 \Rightarrow a + b + c + d = 0 \Rightarrow x = 1$

$\Rightarrow x^3 - 4x^2 - x + 4 \div x - 1 = x^2 - 3x - 4 \Rightarrow (x-1)(x^2 - 3x - 4) = f(x)$

$\Rightarrow \frac{-1 \quad 1 \quad 4}{- \; + \; - \; +}$ $\Rightarrow (-\infty, -1)$ یا $(1, 4)$ $\Rightarrow \frac{1+4}{2} = 2$

$\Rightarrow f(2) = 8 - 12 - 2 + 3 = -3$

۵

$(a-1)x^2 + (a-1)x + 1 < 0 \Rightarrow \Delta < 0 \;,\; (a-1) < 0$

$\Rightarrow \Delta < 0 : (a-1)^2 - 4(a-1) < 0 \Rightarrow a^2 - 5a + 5 < 0 \Rightarrow \frac{1 \quad 5}{+ \; - \; +}$ $(1, 5)$

$(a-1) < 0 \Rightarrow a < 1$ $\quad \cap$

$\Rightarrow (-\infty, 1) \cap (1, 5) = \emptyset$

$\frac{m(m^2+m)}{m-2} > 0 \Rightarrow \frac{m^2(m^2+1)}{m-1} > 0 \Rightarrow$ $0,\ 1:\ -\ \|\ -\ \|\ +$ $\Rightarrow \{x \mid x \in (1,+\infty)\}$	۶
$\frac{(x^2-x-6)(x-1)^2}{(x^2+x+1)(2-x)^3} \leq 0 \Rightarrow \frac{(x-3)(x+2)(x-1)^2}{(x^2+x+1)(2-x)^3} \leq 0$ $-2,\ 1,\ 2,\ 3:\ +\ \|\ -\ \|\ -\ \|\ +\ \|\ -$ $\Rightarrow \{x \mid x \in [-2,2) \cup [3,+\infty)\}$	۷
$\frac{3x^2-2x}{x^2+4} < 2 \Rightarrow \frac{3x^2-2x}{x^2+4} - 2 < 0 \Rightarrow \frac{3x^2-2x-2x^2-8}{x^2+4} < 0$ $\Rightarrow \frac{(x-4)(x+2)}{x^2+4} < 0 \Rightarrow$ $-2,\ 4:\ +\ \|\ -\ \|\ +$ $\Rightarrow (-2,4)$ $\Rightarrow b-a = 4-(-2) = 6$	۸
$-1 < \frac{3x^2-4x}{x+1} < 0 \Rightarrow \frac{3x^2-4x}{x+1} < 0 \Rightarrow$ $-1,\ 0,\ \frac{4}{3}:\ -\ \|\ +\ \|\ -\ \|\ +$ $(-\infty,-1) \cup (0,\frac{4}{3})$, $\frac{3x^2-4x}{x+1} > -1 \Rightarrow \frac{3x^2-3x+1}{x-1} > 0$ $\Rightarrow$ $1:\ -\ \|\ +$ $\Rightarrow (1,+\infty)$ $\Rightarrow \left((-\infty,-1) \cup (0,\frac{4}{3})\right) \cap (1,+\infty)$ $= (1,\frac{4}{3})$	۹
$\frac{x^2-10}{x} \leq 3 \Rightarrow \frac{x^2-10}{x} - 3 \leq 0 \Rightarrow \frac{x^2-3x-10}{x} \leq 0$ $\Rightarrow$ $-2,\ 0,\ 5:\ -\ \|\ +\ \|\ -\ \|\ +$ $\Rightarrow \{x \mid x \in (-\infty,-2] \cup (0,5]\}$	۱۰