

پاسخدار تکلیف شماره ۲۴

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هم فرض A

$$a^2 - a + b = (n-1)(n-3) = a^2 - 4a + 3 \Rightarrow a = 4, b = 3 \rightarrow a+b=7 \quad d$$

$$n - 3n = n + 1 \rightarrow n = \frac{-1}{4} \quad n = 4: (k-2)n + (m-1) = 0 \rightarrow 4k - 8 + m - 1 = 0 \quad r$$

$$m = 9 - 4k \rightarrow 4k + m = 9$$

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n	-1	4	\rightarrow	$4k + m$	$= 9$	$\parallel < 0$	$\rightarrow k < 2$	$\xrightarrow{k=1}$	$k=1$	$, m=8$
p	$+1$	0	$-$	$4k + m$	$= 9$	\Rightarrow	$\frac{4k}{-4}$	$= -k + 1 = -1$	\Rightarrow	$k=1$

$$-\frac{1}{4}a^2 + 2a + 4 < \frac{7}{4} \quad -a^2 + 4a + 0 < 0 \quad a = \frac{4 \pm \sqrt{16}}{2} \rightarrow -1 \quad r$$

$\hookrightarrow d$

$$a = -1, b = 8 \Rightarrow b - a = 8 - (-1) = 9$$



$$f(x) = (x^3 - 3x^2 - x + 3) \rightarrow x^2(x-3) - (x-3) = (x-3)(x^2-1) \quad (1)$$

$$= \underbrace{(x-3)}_3 \underbrace{(x-1)}_1 \underbrace{(x+1)}_{-1} \quad \frac{-1 \quad 1 \quad 3}{-\phi \quad +\phi \quad -\phi \quad +} \quad (a, b) = (1, 3) \rightarrow \text{نقطة التقاطع}$$

$$f(x) = x - 1x - x + 3 = -3$$

$$a-1 < 0 \rightarrow a < 1 \quad \Delta < 0 \rightarrow \underbrace{(a-1)}_1 \underbrace{(a-d)}_d < 0 \quad \frac{d}{+\phi -\phi +} \quad (2)$$

$\Rightarrow 1 < a < d \rightarrow a < 1 \cap 1 < a < d = \emptyset$ - (لا يوجد تقاطع حقيقي و a و d) -

$$\frac{m(m^2+m)}{m-2} > 0 \quad m-2 \neq 0 \quad m \neq 2 \quad m(m^2+m) < 0 \rightarrow m < 0 \quad (3)$$

$$m^2+m = 0 \rightarrow m(m+1) = 0$$

$$\leftarrow m = 0 \quad \checkmark \quad \rightarrow m = -1 \quad \times$$

$$\frac{0 \quad 2}{- \quad - \quad +} \quad (-\infty, 0] \cup [2, +\infty)$$

$$\frac{(x^2-x-4)(x-1)^2}{(x^2+x+1)(x-2)^2} > 0 \quad x^2-x-4=0 \quad (x+2)(x-3)=0$$

$$x-1=0 \quad x=1 \quad \checkmark \quad \frac{-2}{-} \quad \frac{3}{+}$$

$$\frac{-2 \quad 1 \quad 2 \quad 3}{- \quad + \quad + \quad - \quad +} \rightarrow (-\infty, -1) \cup (2, 3]$$

$$\frac{(x^2-2x) - x(x^2+1)}{x^2+1} < 0 \quad \frac{x^2-2x-x^3-1}{x^2+1} < 0 \quad \frac{x^2-2x-1}{x^2+1} < 0 \quad (4)$$

$$\Rightarrow x^2-2x-1 < 0 \quad (x-1)(x+1) < 0 \quad \frac{-1 \quad 1}{+ \quad - \quad +} \rightarrow (-1, 1) \rightarrow b-a = 1 - (-1) = 2$$

تجزئة صفرية $\rightarrow x^2-2x = x(x-2)$ $\frac{2}{+} \quad \frac{-2}{-}$ $\rightarrow x \in (0, 2)$ (5)

فرض $\rightarrow x \neq -1$

$$\frac{x^2-1}{x} > 0 \rightarrow \frac{x^2-2x-1}{x} > 0 \quad \frac{d}{(x-d)} \frac{-r}{(x+r)}$$

$$\frac{-2 \quad 0 \quad d}{- \quad + \quad - \quad +} \quad \frac{-2 \quad 0 \quad d}{- \quad + \quad - \quad +} \quad (6)$$

$$\Rightarrow x \in (-\infty, -1] \cup [0, 2]$$