تعريف ①:

المجال	c	r	الحصر	المسافة	المتباينة المطلقة
$[3,10]$	$\frac{13}{2}$	$\frac{7}{2}$	$3\leq x\leq 10$	$d(x,\frac{13}{2})\leq\frac{7}{2}$	$\lvert x-\frac{13}{2}\rvert\leq\frac{7}{2}$
$[-3,5]$	1	4	$-3\leq x\leq 5$	$d(x,1)\leq 4$	$\lvert x-1\rvert\leq 4$
$[-6,2]$	-2	4	$-6\leq x\leq 2$	$d(x,-2)\leq 4$	$\lvert x+2\rvert\leq 4$
$[-10,6]$	-2	8	$-10\leq x\leq 6$	$d(x,-2)\leq 8$	$\lvert x+2\rvert\leq 8$
$]-\infty,-8[\cup]2,+\infty[$	-3	5	$x\leq -8$ أو $x\geq 2$	$d(x,-3)\geq 5$	$\lvert x+3\rvert\geq 5$

تعريف ②:

$x=3\sqrt{7}+\sqrt{28}-\sqrt{63}$

$=3\sqrt{7}+2\sqrt{7}-3\sqrt{7}=2\sqrt{7}$

$y=\frac{(\sqrt{3})^{-4}\cdot\sqrt{18}}{3^{-3}\cdot\sqrt{6}}=\frac{3^3\cdot\sqrt{18}}{(\sqrt{3})^4\cdot\sqrt{6}}$

$=\frac{3^3\cdot 3\sqrt{2}}{3^2\cdot\sqrt{3}\sqrt{2}}=\frac{3^2}{\sqrt{3}}=\frac{3^2\cdot\sqrt{3}}{3}=3\sqrt{3}$

$x=2\sqrt{7}\Rightarrow x^2=4.7=28$ ①

$y=3\sqrt{3}\Rightarrow y^2=9.3=27$

$x^2>y^2\Rightarrow$ **$x>y$**

$(x+y)=\frac{1}{x-y}\Leftrightarrow(x+y)(x-y)=1$ ②

$(x+y)(x-y)=x^2-y^2=28-27=1$

$\sqrt{\frac{2\sqrt{7}-3\sqrt{3}}{2\sqrt{7}+3\sqrt{3}}}=\sqrt{\frac{x-y}{x+y}}=\sqrt{\frac{(x-y)(x-y)}{(x+y)(x-y)}}$

$=\sqrt{\frac{(x-y)^2}{x^2-y^2}}=\sqrt{(x-y)^2}=x-y$

$=2\sqrt{7}-3\sqrt{3}$

$(a-b)(2\sqrt{7}-3\sqrt{3})=$ (4

$2a\sqrt{7}-3a\sqrt{3}-2b\sqrt{7}+3b\sqrt{3}$

$=2\sqrt{7}a+3\sqrt{3}b-3\sqrt{3}a-2\sqrt{7}b$

لدينا: $a\geq b$ أي $a-b\geq 0$

$2\sqrt{7}-3\sqrt{2}\geq 0$ أي $2\sqrt{7}\geq 3\sqrt{2}$

ومنه: $(a-b)(2\sqrt{7}-3\sqrt{3})\geq 0$

$2\sqrt{7}a+3\sqrt{3}b-3\sqrt{3}a-2\sqrt{7}b\geq 0$

$2\sqrt{7}a+3\sqrt{3}b\geq 2\sqrt{7}b+3\sqrt{3}a$

تعريف 3:

$2\leq y\leq 4$

$4\leq 2y\leq 8\Rightarrow 4-5\leq 2y-5\leq 8-5$

$-1\leq 2y-5\leq 3$ — ①

$2\leq y\leq 4$

$-6\geq -3y\geq -12$

$0\geq -3y+6\geq -6$

② — $-6\leq -3y+6\leq 0$

$-7\leq -y+1\leq 3$ ② + ①

$|-3y+6|=-(-3y+6)=3y-6$

$2\leq y\leq 4\Rightarrow 2-1\leq y-1\leq 4-1$

$1\leq y-1\leq 3$

$|y-1|=y-1$

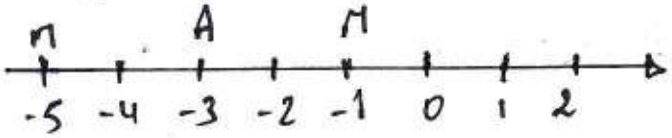
$\sqrt{(x+3)^2} = 2$ (2

$|x+3| = 2 \Leftrightarrow |x-(-3)| = 2$

نضع A نقطة فاصلتها x

-3 " " A "

$MA = 2$



$x = -5$ أو $x = -1$

تعويض 4:

$f(x) = \frac{2}{x-1}$ (1

$D_f = \{x / x \in \mathbb{R} : x-1 \neq 0\}$

$x-1 = 0 \Rightarrow x = 1$

$D_f = \mathbb{R} - \{1\}$

$x \in]-\infty, 1[\cup]1, +\infty[$

$f(x) = \sqrt{-x+4}$ (2

$D_f = \{x / x \in \mathbb{R} : -x+4 \geq 0\}$

$-x+4 \geq 0 \Rightarrow -x \geq -4$

$x \leq 4 \quad x \in]-\infty, 4]$

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

$D_f = \{x / x \in \mathbb{R} : x^2-3 \neq 0\}$

$x^2-3 = 0 \Rightarrow x^2 = 3$

$x = \pm\sqrt{3} \Rightarrow \begin{cases} x = -\sqrt{3} \\ x = \sqrt{3} \end{cases}$

$D_f = \mathbb{R} - \{-\sqrt{3}; \sqrt{3}\}$

$f(x) = \frac{2}{x^2+4}$ (4

$D_f = \mathbb{R}$

$f(x) = \frac{2}{|x|-1}$ (5

$D_f = \{x / x \in \mathbb{R} : |x|-1 \neq 0\}$

$|x|-1 = 0 \Rightarrow |x| = 1$

$\begin{cases} x = -1 \\ x = 1 \end{cases}$

$D_f = \mathbb{R} - \{-1; 1\}$