

الف) $x^2 - 1 > 0 \Rightarrow x^2 > 1 \Rightarrow x > 1, x < -1$ $x^2 - 1 \geq 0 \Rightarrow x > 1$ } $x > 1 \quad D_f = [1, +\infty)$ ب) $x^2 - 1 > 0 \Rightarrow x^2 < 1 \Rightarrow x < 1$ $x^2 - 1 \geq 0 \Rightarrow x > 1 \Rightarrow x > \frac{1}{1}$ } $(\frac{1}{1}, 1]$	٦
$x - a > 0 \Rightarrow x > a \Rightarrow x > \frac{a}{1}$ $b - x > 0 \Rightarrow x < b \Rightarrow x < \frac{b}{1}$ } $\Rightarrow \frac{a}{1} = \frac{b}{1} = 1 \Rightarrow \frac{b}{a} = \frac{1}{1}$ $D_f = \{1\}$	٧
$x^2 - x - 6 = (x - 3)(x + 2)$ $x^2 - 13x + 12 = (x - 1)(x - 12)$ $t = x^2$ الف) $\frac{-\infty}{+} \frac{-3}{-} \frac{-2}{-} \frac{1}{+} \frac{12}{+} \frac{+\infty}{+}$ $D_f = (-\infty, -3) \cup (1, +\infty) - \{3\}$ ب) $\sqrt{\frac{(x-1)(x^2-x-6)}{(x+1)(x^2+x-6)}} = \sqrt{\frac{(x-1)(x-3)(x+2)}{(x+1)(x+3)(x-1)}}$ $\frac{-\infty}{+} \frac{-3}{-} \frac{-2}{-} \frac{1}{+} \frac{1}{+} \frac{3}{-} \frac{+\infty}{+}$ $D_f = (-\infty, -3) \cup [2, -1) \cup [1, 3) \cup [3, +\infty)$	٨
الف) $1[x] - 2 \geq 0 \Rightarrow 1[x] \geq 2 \Rightarrow [x] \geq 2 \Rightarrow D_f = [2, +\infty)$ ب) $1[x] - 5 \geq 0 \Rightarrow 1[x] \geq 5 \Rightarrow [x] \geq 5 \Rightarrow D_f = [5, +\infty)$	٩
الف) $\sqrt{\frac{x+1}{ x-3 }} \rightarrow x > -1, x \neq 3$ $\sqrt{\frac{4-x}{x^2+1x+1}} \rightarrow x < 4$ $D_f = [-1, 4] - \{3\}$ ب) $[x] - 4 \geq 0 \Rightarrow [x] \geq 4 \Rightarrow x \geq 4$ $1 - [x] \geq 0 \Rightarrow [x] \leq 1 \Rightarrow x < 2$ $D_f = \emptyset$	١٠

$$\underline{-r}) \quad -C_2 \frac{\Delta r}{r} + \sin \frac{r_1}{r} - r \sin \frac{r_2}{r} = -(-\sqrt{\frac{r}{r}}) + \frac{\sqrt{r}}{r} - r(-\sqrt{\frac{r}{r}}) = \frac{2\sqrt{r}}{r}$$