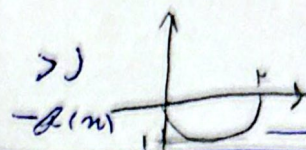
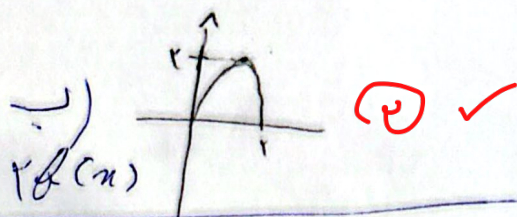
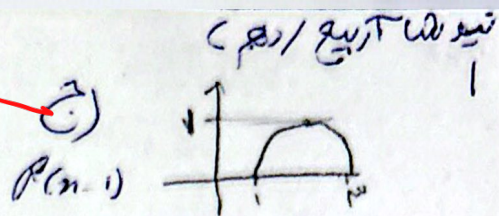


19, 25



الف) $x^2 - 4x + 4 > 0$
 $(x-2)(x-2) > 0$

ب) $x^2 - 4x + 4 < 0$
 $(x-1)(x-3) < 0$

$x \in (-\infty, 1) \cup (3, \infty)$

ج) $x^2 + 4x + 4 > 0$
 $(x+1)(x+1) > 0$

د) $x^2 - 4x + 4 < 0$
 $(x-1)(x-3) < 0$

الف) $\frac{x^2 - 5x + 4}{x-2} < 0$ $\frac{(x-2)(x-1)}{x-2} < 0$

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

ج) $y = \sqrt{\frac{x^2 - 1}{x^2 - 4x + 4}}$ $\frac{x^2 - 1}{x(x-2)}$

د) $y = \sqrt{\frac{x^2 - 14}{x^2 - 4x + 4}}$ $\frac{(x+4)(x-4)}{(x-2)(x-1)}$

الف) $y = \sqrt{4 - \sqrt{4-x}}$ $4 - \sqrt{4-x} \geq 0$ $\sqrt{4-x} \leq 4$ $4-x \leq 16$ $x \geq -12$

ب) $y = \sqrt{4 - \sqrt{4-x}}$ $4 - \sqrt{4-x} \geq 0$ $\sqrt{4-x} \leq 4$ $4-x \leq 16$ $x \leq 12$

$y = \sqrt{r - r \cos \theta}$ $r - r \cos \theta \geq 0 \rightarrow r \cos \theta \leq r \rightarrow \cos \theta \leq 1$
 $\text{Def} = (-\infty, \infty]$ $r \leq r \rightarrow -\sqrt{r} \leq \theta \leq \sqrt{r}$

$y = \sqrt{r \cos \theta}$ $r \cos \theta \geq 0 \rightarrow r \cos \theta \geq 0 \rightarrow \cos \theta \geq 0$
 $\text{Def} = (-\infty, -r] \cup [r, +\infty)$

$y = \sqrt{\frac{r \cos \theta + 1}{r \cos \theta - 1}}$ $\frac{r \cos \theta + 1}{r \cos \theta - 1} \geq 0 \rightarrow r \cos \theta \geq -1$
 $\text{Def} = \mathbb{R} - \{-1\}$

$y = \sqrt{\frac{r \cos \theta + 1}{r \cos \theta - 1}}$ $\frac{r \cos \theta + 1}{r \cos \theta - 1} \geq 0 \rightarrow r \cos \theta \geq -1$
 $\text{Def} = [0, +\infty) - \{1\}$

$y = \frac{\sin \theta}{\cos \theta - 1}$ $\cos \theta \neq 1$
 $\text{Def} = \mathbb{R} - \{r \cos \theta \pm \frac{r}{\epsilon}\}$

$y = \frac{\cos \theta + 1}{\sin \theta + 1}$ $\sin \theta \neq -1$
 $\text{Def} = \mathbb{R} - \{r \cos \theta + \frac{r}{\epsilon}\}$

$y = \frac{\tan \theta + 1}{\cot \theta - 1}$ $\cot \theta \neq 1$
 $\text{Def} = \mathbb{R} - \{r \cos \theta + \frac{r}{\epsilon}\}$

$y = \frac{\sin \theta + 1}{\cos \theta - 1}$ $\cos \theta \neq 1$
 $\text{Def} = \mathbb{R} - \{r \cos \theta - \frac{r}{\epsilon}, r \cos \theta + \frac{r}{\epsilon}\}$

$y = \frac{1}{\sqrt{r \cos \theta - \frac{1}{r}}}$ $r \cos \theta - \frac{1}{r} > 0 \rightarrow r \cos \theta > \frac{1}{r} \rightarrow \cos \theta > \frac{1}{r}$
 $\text{Def} = (-\infty, \frac{1}{r}) \cup (\frac{1}{r}, +\infty)$

$y = \sqrt{\epsilon - r \cos \theta}$ $\epsilon - r \cos \theta \geq 0 \rightarrow r \cos \theta \leq \epsilon$
 $\text{Def} = [-r, r]$

$y = \sqrt{\frac{r \cos \theta}{r \cos \theta}}$
 $\text{Def} = \mathbb{R} - \{0\}$