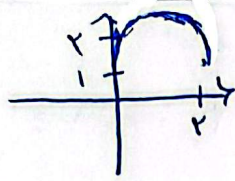
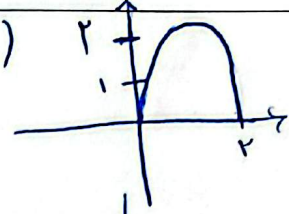


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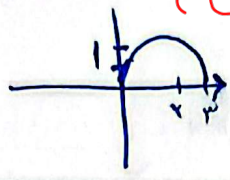
الف) $f(m) + 2$



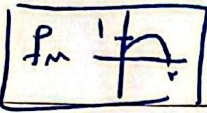
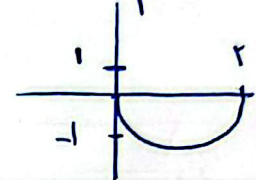
ب) $2f(m)$



ج) $f(m-1)$



د) $-f(m)$



الف) $m^2 - 4m + 4 > 0$

$(m-2)(m-2)$

$m^2 - 4m + 4$
 $(-\infty, 2) \cup (2, +\infty)$

ب) $m^2 - 4m + 4 < 0$

$(m-2)(m-2)$

$m^2 - 4m + 4$
 $(2, 2)$

ج) $m^2 + 4m + 4 \geq 0$

$(m+2)(m+2)$

$m^2 + 4m + 4$
 $(-\infty, -2] \cup [-2, +\infty)$

د) $m^2 - 4m + 4 \leq 0$

$(m-2)(m-2)$

$m^2 - 4m + 4$
 $[2, 2]$

الف) $\frac{m^2 - 3m + 2}{m - 4} < 0$

$\frac{(m-1)(m-2)}{m-4}$
 $(-\infty, 1) \cup (2, 4)$

ب) $\frac{m^2 - 1}{m^2 - 4m + 4} \geq 0$

$\frac{(m-1)(m+1)}{(m-2)^2}$
 $(-\infty, -1] \cup (1, +\infty)$

الف) $\sqrt{\frac{m^3 - 1}{m^3 - m}}$

$\frac{m^3 - 1}{m^3 - m} \geq 0$
 $m^3 \geq 1$
 $m \geq 1$
 $m \neq 0$
 $(-\infty, -1) \cup (0, +1) \cup (1, +\infty)$

ب) $\sqrt{\frac{m^2 - 16}{m^2 - 4m + 4}} \leq m^2 - 4 \pm 4$

$\frac{(m-4)(m+4)}{(m-2)^2} \leq m^2 - 4 \pm 4$
 $(-\infty, -4] \cup (1, 4) \cup (4, +\infty)$

الف) $\sqrt{4 - \sqrt{2 - m}}$

$4 - \sqrt{2 - m} \geq 0$
 $\sqrt{2 - m} \leq 4$
 $2 - m \leq 16$
 $m \geq -14$
 $\sqrt{2 - m} \geq 0$
 $2 - m \geq 0$
 $m \leq 2$
 $-14 \leq m \leq 2$

ب) $y = \sqrt{2 - \sqrt{m - 2}}$

$2 - \sqrt{m - 2} \geq 0$
 $\sqrt{m - 2} \leq 2$
 $m - 2 \leq 4$
 $m \leq 6$
 $\sqrt{m - 2} \geq 0$
 $m - 2 \geq 0$
 $m \geq 2$
 $2 \leq m \leq 6$

۲) ✓

$$a) y = \sqrt{4 - 2m^2}$$

$$4 - 2m^2 \geq 0$$

$$2m^2 \leq 4$$

$$m^2 \leq 2$$

$$m \leq \sqrt{2}$$

$$- \sqrt{2} \leq m \leq \sqrt{2}$$

1.5

$$b) y = \sqrt{2|m| - 9}$$

$$2|m| - 9 \geq 0$$

$$2|m| \geq 9$$

$$|m| \geq \frac{9}{2} \rightarrow m \geq \frac{9}{2}$$

$$m \leq -\frac{9}{2}$$

6

$$a) y = \sqrt{\frac{|m| + 1}{|m| - 3}}$$

خرج با بدافعال
صفت باسه

$$|m| - 3 > 0$$

$$|m| \neq 3 \rightarrow m \neq \pm 3$$

$$D_f = R - \{ \pm 3 \}$$

$$|m| > 3 \rightarrow m > 3$$

$$m < -3$$

5

$$b) y = \sqrt{\frac{\sqrt{m+1}}{\sqrt{m}-3}}$$

$$m \geq 0$$

$$\sqrt{m} - 3 > 0$$

$$\sqrt{m} > 3$$

$$m > 9$$

$$\sqrt{m} - 3 \neq 0 \rightarrow \sqrt{m} \neq 3$$

$$m \neq 9$$

$$D_f = [0, +\infty) - \{9\}$$

$$P_{PR} = \left\{ r k x + \frac{x}{r}, r k y + \frac{y}{r} \right\}$$

7

$$a) y = \frac{\sin m}{r \cos m - 1}$$

$$r \cos m - 1 \neq 0$$

$$r \cos m \neq 1$$

$$\cos m \neq \frac{1}{r}$$

$$P_f = R - \left\{ r k x + \frac{x}{r}, r k y + \frac{y}{r} \right\}$$

$$b) y = \frac{\cos m + 1}{r \sin m + 1}$$

$$r \sin m + 1 \neq 0$$

$$r \sin m \neq -1$$

$$\sin m \neq -\frac{1}{r}$$

$$P_f = R - \left\{ r k x + \frac{x}{r}, r k y + \frac{y}{r} \right\}$$

Costacos

$$c) y = \frac{\tan m + r}{r \sin m - 1}$$

$$\sin m \neq 0$$

$$\tan m \neq \frac{\sin m}{\cos m}$$

$$\cot m \neq \frac{\cos m}{\sin m}$$

$$\cos m \neq 0$$

$$P_f = R - \left\{ r k x + \frac{x}{r}, r k y + \frac{y}{r} \right\}$$

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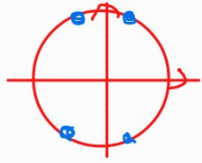
205</

$$\begin{cases} \cos \theta \neq 1 \rightarrow \theta \neq k\pi + \frac{\pi}{2} \\ \cos \theta \neq 0 \rightarrow \theta \neq k\pi + \frac{\pi}{2} \\ \sin \theta \neq 0 \rightarrow \theta \neq k\pi \end{cases} \rightarrow D_f = \mathbb{R} - \left\{ \frac{k\pi}{2}, k\pi + \frac{\pi}{2} \right\}$$

2- A

$$\sqrt{\sin^2 \theta} \neq \frac{\sqrt{r}}{r} \rightarrow \sin^2 \theta \neq \frac{r}{r^2} \rightarrow \sin \theta \neq \pm \frac{\sqrt{r}}{r}$$

2



$$D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{4} \right\}$$