

①

$$\frac{x+40}{1.2V} = 1\frac{1}{4} \cdot \frac{x}{V} \quad / \cdot V$$

$$\frac{x+40}{1.2} = 1\frac{1}{4}x$$

$$x+40 = 1\frac{1}{2}x \rightarrow x=80$$

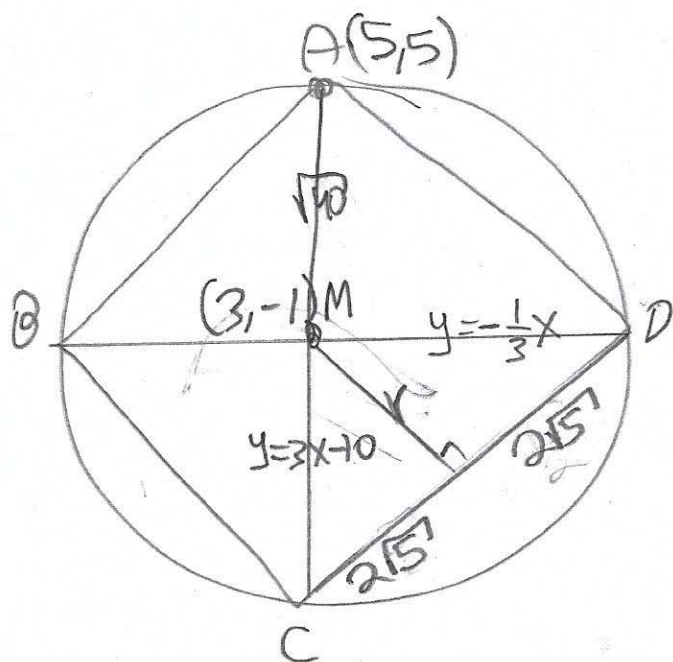
$$BC=120$$

$$\frac{120}{V}=6 \rightarrow \boxed{V=20 \frac{\text{קמ}}{\text{ש}}}$$

Ⓚ

$$\boxed{AB=80 \frac{\text{קמ}}{\text{ש}}}$$

Ⓜ



$$y - 5 = 3(x - 5)$$

$$y = 3x - 10$$

$$3x - 10 = -\frac{1}{3}x$$

$$3\frac{1}{3}x = 10$$

$$X=3 \quad M(3,-1)$$

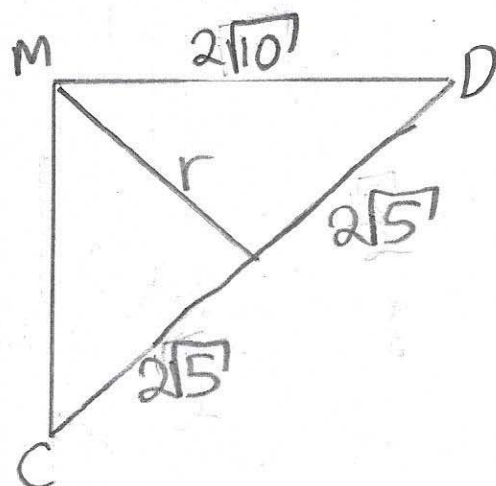
$$R = \sqrt{(5-3)^2 + (-1-5)^2} = \sqrt{40}$$

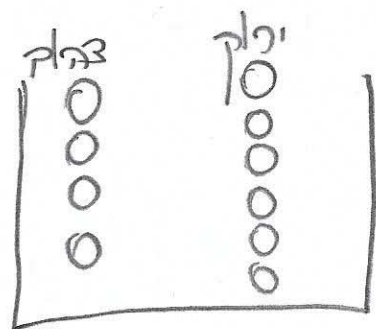
$$(x-3)^2 + (y+1)^2 = 40$$

$$\sqrt{40}^2 + \sqrt{40}^2 = AD^2 \Rightarrow \boxed{\frac{80}{1/2 \times 2} = 4\sqrt{5}}$$

$$r^2 + 20 = 40$$

$$r = \sqrt{20} = 2\sqrt{5}$$





3

$$P(\text{צהל}^3) = \frac{4}{10} \cdot \frac{3}{9} \cdot \frac{2}{8} = \boxed{\frac{1}{30}}$$

(1) 10

$$P(\text{צהל}^3) + P(\text{ירק}^3) = \frac{1}{30} + \frac{6}{10} \cdot \frac{5}{9} \cdot \frac{4}{8} = \boxed{\frac{1}{5}}$$

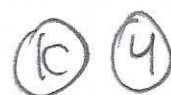
(2)

$$P(\text{צהל}^3) = \left(\frac{4}{10}\right)^3 = \boxed{\frac{8}{125}}$$

(1) 2

$$1 - P(\text{צהל}^3) = 1 - \frac{8}{125} = \boxed{\frac{117}{125}}$$

(2)


$$\frac{DA}{EC} = \frac{AC}{CD} = \frac{DC}{ED} \quad (2)$$

$$\frac{25}{CD} = \frac{CD}{36}$$

$$CD^2 = 25.36$$

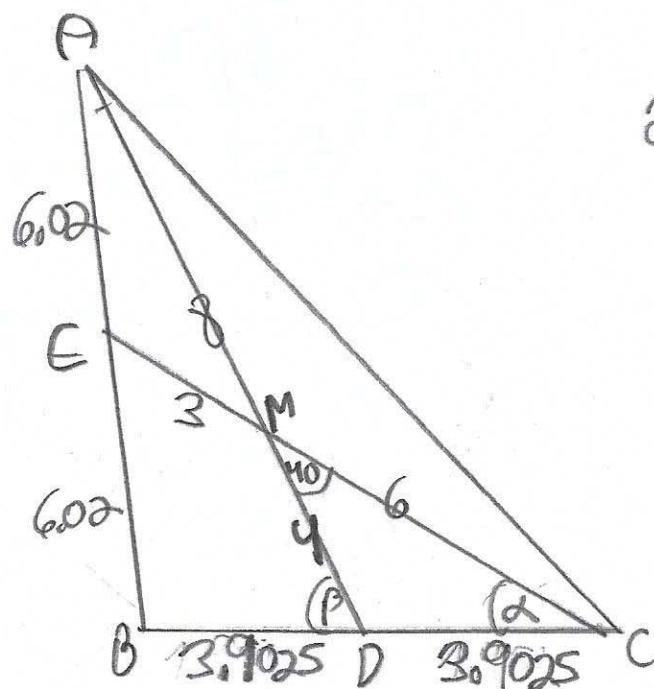
$$CD = 30$$

$R = 15 \text{ cm}$

$$AD^2 + 25^2 = 30^2$$

$$AD = 5 \text{ cm}$$

$$S_{DAC} = \frac{5 \text{ m} \cdot 25}{2} = \boxed{\frac{125 \text{ m}}{2} = 207.29 \text{ cm}^2}$$



5) כח תכון 2:1

$$\begin{aligned} MD &= 4 \text{ cm} \\ MC &= 6 \text{ cm} \end{aligned}$$

6)

$$CD^2 = 4^2 + 6^2 - 2 \cdot 4 \cdot 6 \cdot \cos 40$$

7) $\triangle CDM$

$$BC = 2CD = 7.805 \text{ cm}$$

$$\frac{4}{\sin \alpha} = \frac{3.9025}{\sin 40}$$

8) $\triangle MCD$

$$\alpha = 41.21^\circ$$

$$BE^2 = 9^2 + (7.805)^2 - 2 \cdot 9 \cdot 7.805 \cdot \cos \alpha$$

9) $\triangle BEC$

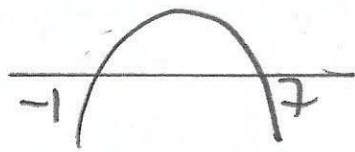
$$BE = 6.02$$

$$(2 \cdot 6.02)^2 = 3.9025^2 + 12^2 - 2 \cdot 3.9025 \cdot 12 \cdot \cos \beta$$

$$\beta = 81.24^\circ$$

$$S_{\triangle ABD} = \frac{12 \cdot 3.9025 \cdot \sin \beta}{2} = 23.14 \text{ cm}^2$$

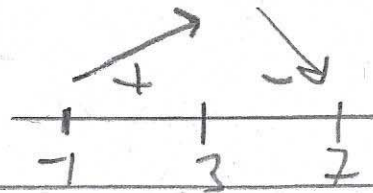
$$y = \sqrt{-x^2 + 6x + 7}$$



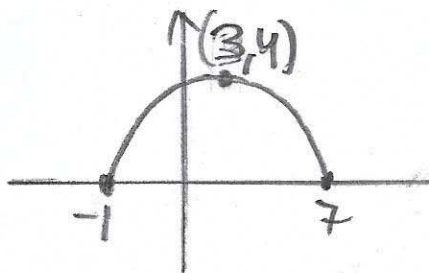
תנ" (6) $-x^2 + 6x + 7 \geq 0$

$$\boxed{-1 \leq x \leq 7}$$

$$y' = \frac{-2x + 6}{2\sqrt{-x^2 + 6x + 7}} = 0$$



$(-1, 0)$	$(3, 4)$	$(7, 0)$
min	max	min



$$\boxed{-1 < x < 7 \quad \text{תנ"}}$$

(3) (1) $g = \frac{1}{\sqrt{-x^2 + 6x + 7}}$

$$g' = -\frac{1 \cdot f'}{f^2}$$

(2) $\boxed{\text{III}}$

נקי מקובלן אמתא עליה יחיד מחסבם.
כח כן, חס תחיד חילבו.

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

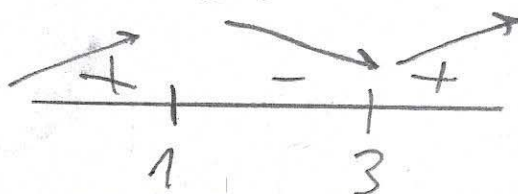
$$x \neq 1$$

$$(0, 2) \quad (2, 0)$$

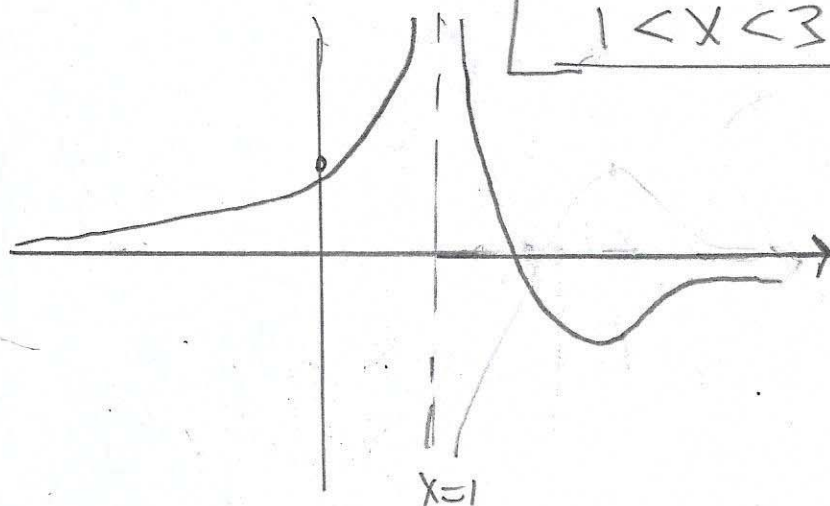
$$y=0, x=1$$

$$y' = \frac{-(x-1)^2 - 2(x-1)(2-x)}{(x-1)^4} = \frac{-(x-1)[x-1+4-2x]}{(x-1)^4} \quad (3)$$

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

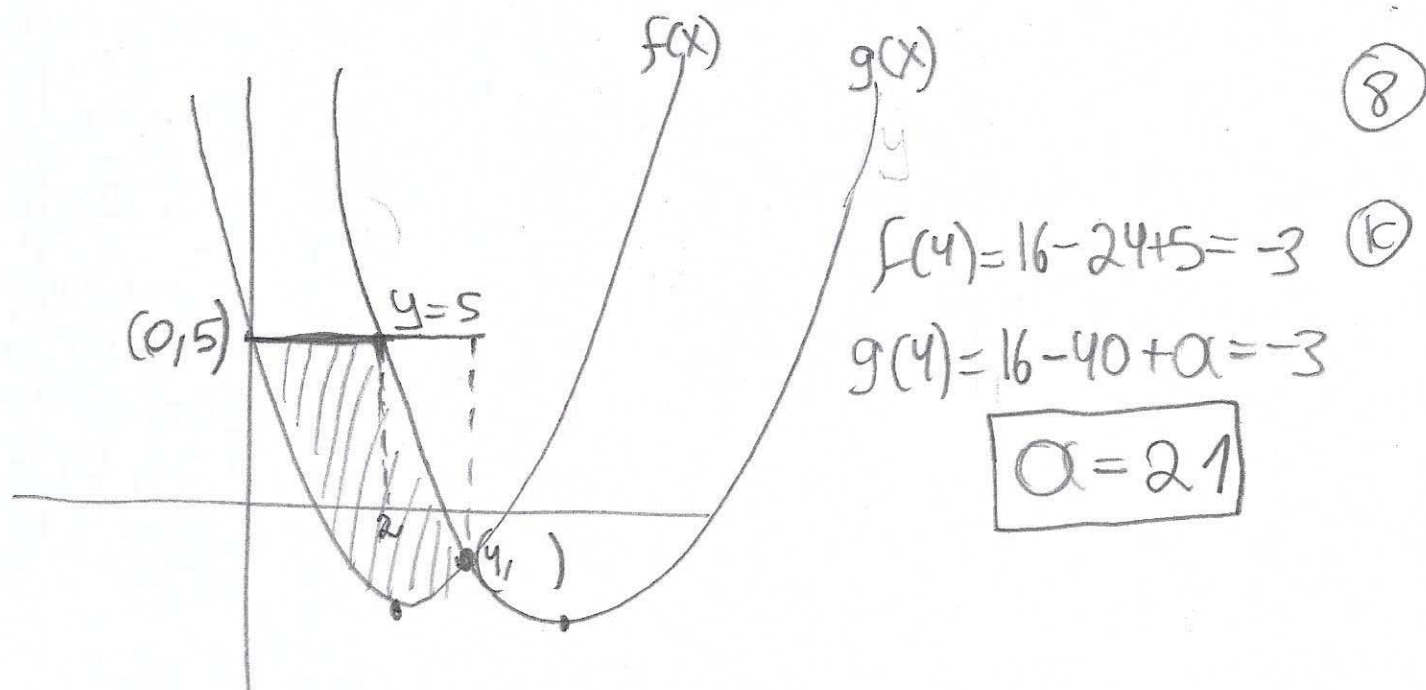


$$\begin{array}{ll} x < 1, x > 3 & \text{סולם חי} \\ 1 < x < 3 & \text{ולחץ חי} \end{array}$$



$$\begin{array}{lll} f' \text{ חי} & x < 1 & \text{חי} \\ f' \text{ שלילי} & 1 < x < 3 & \\ f' \text{ חי} & x > 3 & \end{array}$$

$$\text{II} \quad \text{סולם}$$



$$5 = x^2 - 10x + 21 \rightarrow x^2 - 10x + 16 = 0 \rightarrow \boxed{x_1 = 2}$$

$x_2 = 8$

$$S_1 = \int_0^2 (5 - x^2 + 6x - 5) dx = \int_0^2 (-x^2 + 6x) dx = -\frac{x^3}{3} + \frac{6x^2}{2} = 9\frac{1}{3}$$

$$S_2 = \int_2^4 (x^2 - 10x + 21 - (-x^2 + 6x - 5)) dx = \int_2^4 (-4x + 16) dx = -\frac{4x^2}{2} + 16x = 32 - 24 = 8$$

$$S = 9\frac{1}{3} + 8 = \boxed{17\frac{1}{3}}$$