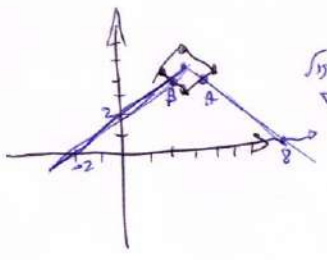
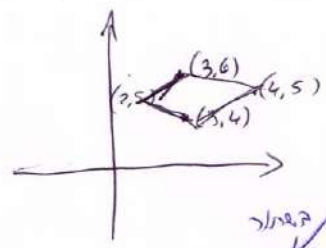


1.69
1

$$\textcircled{1c} \begin{cases} |x-3| + |y-5| = 1 \\ |x-3| + y = 5 \end{cases}$$



$$\begin{aligned} x-3+y-5 &= 1 \\ y &= -x+9 \\ (4,5) \quad (3,6) \end{aligned}$$

$$\begin{aligned} x-3-(y-5) &= 1 \\ y &= x+1 \\ (4,5) \quad (3,4) \end{aligned}$$

$$\begin{aligned} -(x-3)+y-5 &= 1 \\ y &= x+3 \\ (2,5) \quad (3,6) \end{aligned}$$

$$\begin{aligned} -(x-3)-(y-5) &= 1 \\ y &= -x+7 \\ (2,5) \quad (3,4) \end{aligned}$$

$$\begin{aligned} x-3+y &= 5 \\ y &= -x+8 \\ (8,0) \quad (3,5) \end{aligned}$$

$$\begin{aligned} -(x-3)+y &= 5 \\ y &= x+2 \\ (0,2) \quad (3,5) \end{aligned}$$

תחום המוגדר:

$$\begin{aligned} x &\geq 3 \\ y &\geq 5 \end{aligned}$$

$$\begin{aligned} x &\geq 3 \\ y &\leq 5 \end{aligned}$$

$$\begin{aligned} x &\leq 3 \\ y &\geq 5 \end{aligned}$$

$$\begin{aligned} x &\leq 3 \\ y &\leq 5 \end{aligned}$$

תחום המוגדר:

$$x \geq 3$$

$$\begin{aligned} x &\leq 3 \\ (3,5) \end{aligned}$$

$$x \leq 3$$

$$\begin{aligned} (3,5) \end{aligned}$$

$$A(3\frac{1}{2}, 4\frac{1}{2}) \leftarrow x = 3\frac{1}{2} \leftarrow -x+8 = x+1$$

$$B(2\frac{1}{2}, 4\frac{1}{2}) \leftarrow x = 2\frac{1}{2} \leftarrow x+2 = -x+7$$

:A

:B

Ⓣ

1.69
2

$$x^2 - (3^k - 1)x + (3^k - 1) > 0$$

$$\Delta < 0 \quad \text{2.173}$$

$$\Rightarrow (3^k - 1)^2 - 4(3^k - 1) = 3^{2k} - 6 \cdot 3^k + 5$$

$$t = 3^k \quad \text{1.110}$$

$$\Rightarrow t^2 - 6t + 5 = (t - 5)(t - 1) \quad \frac{1}{1} \frac{1}{5}$$

$$1 < t < 5$$

$$1 < 3^k < 5 \rightarrow$$

$$0 < k < \log_3 5$$

1.69
 ≥ 2

$$\log_2(x+2) = m + 2\log_4(x-1)$$

$$\log_2(x+2) = m + \log_2(x-1)$$

$$\log_2\left(\frac{x+2}{x-1}\right) = m$$

תחום הגדרה
 $x > 1 \leftarrow x-1 > 0$
 $x > 2 \leftarrow x+2 > 0$

$$\frac{x+2}{x-1} = 2^m \rightarrow x+2 = 2^m x - 2^m$$

$$x(1-2^m) = -2-2^m$$

$$x = \frac{-2-2^m}{1-2^m}$$

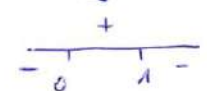
$$4 < \frac{-2-2^m}{1-2^m} < 5$$

$$0 < \frac{-2-2^m-4+4 \cdot 2^m}{1-2^m}$$

אולי $0 > \frac{-2-2^m-5+5 \cdot 2^m}{1-2^m}$

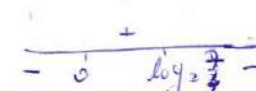
$$0 < \frac{-4+3 \cdot 2^m}{1-2^m} =$$

אולי $0 > \frac{-7+4 \cdot 2^m}{1-2^m} = +$

$$0 < \frac{3(-2+2^m)}{1-2^m}$$


A number line with points 0 and 1. The region between 0 and 1 is shaded with a plus sign, indicating the solution set for the inequality.

אולי

$$0 > \frac{-7+4 \cdot 2^m}{1-2^m}$$


A number line with points 0 and $\log_2 \frac{7}{4}$. The regions to the left of 0 and to the right of $\log_2 \frac{7}{4}$ are shaded with a plus sign, indicating the solution set for the inequality.

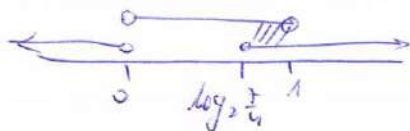
$$0 < m < 1$$

אולי

$$m < 0 \text{ or } m > \log_2 \frac{7}{4}$$

אולי $x > 1$ תחום הגדרה

אולי $f(x) = \frac{-2-2^m}{1-2^m} > 1$
 $(4 < x < 5)$



אולי

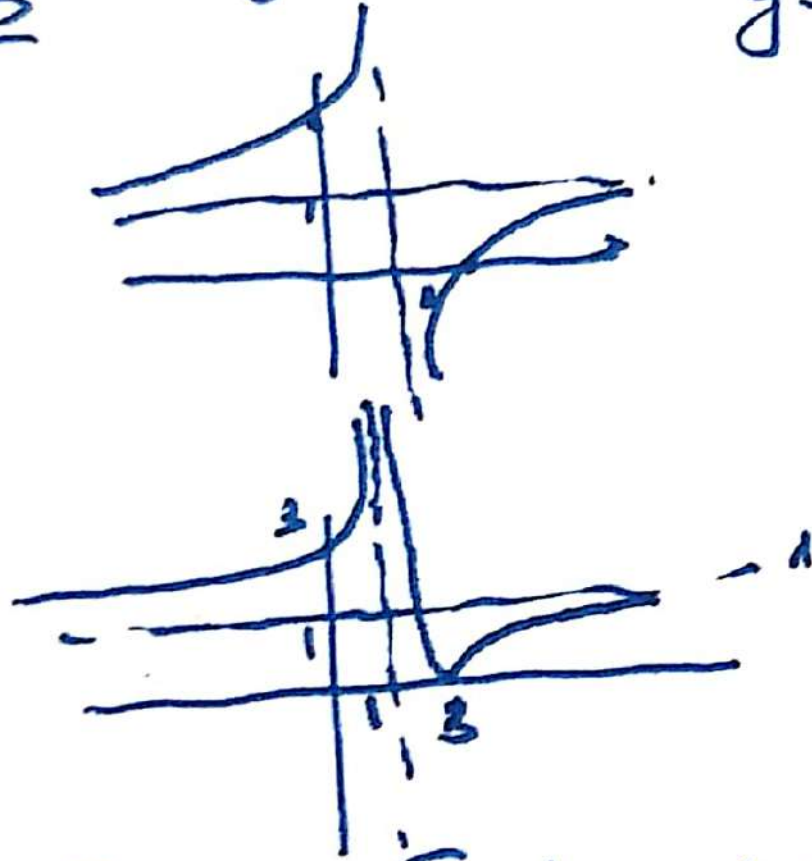
$$\log_2 \frac{7}{4} < m < 1$$

$$\log_2 \frac{7}{4} = \log_2 7 - \log_2 4 = \log_2 7 - 2$$

$$\boxed{-2 + \log_2 7 < m < 1}$$

1.69
3

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



$x=1$ אסימטוטה אנכית
 $y=1$ אסימטוטה אופקית
 נקודות: $(0, 3)$?
 $(3, 0)$

הפונקציה

$1 < x_1 < 3 < x_2$ הפונקציה עולה
 $x > 3$ הפונקציה יורדת
 $0 < m < 1$

169
4

⊙ כאלו הן איברי הסדרה

$$S_n - S_{n-1} = a_n$$

$$(4n^2 - 3n) - [4(n-1)^2 - 3(n-1)] =$$

$$4n^2 - 3n - 4n^2 + 8n - 4 + 3n - 3 = 8n - 7$$

לכן נרשם בין 2 איברי סדרה סכום קבוע ולכן הסדרה חשבונית

$$a_n - a_{n-1} = (8n - 7) - [8(n-1) - 7] = 8n - 7 - 8n + 8 + 7 - 7 = 8$$

⊙ הונו! 2! כיצד נמצא את $S_n - S_{n-1}$ ונקבל את האיבר

אלו a_n אלא בהנחה שסכום הסדרה חשבונית תלוי ב- n איש
אלו $\frac{n}{2}$ (עקב איכות הונו) איש תלוי ב- n איש הסכום

[אם n איש אלא $\frac{n}{2}$ איש]

1.69
S

⊙ $\alpha = \angle BAD = \angle PBC$ (זוויות קבועות, זוויות)

$\alpha = \angle DBC = \angle DBA$ "

$\alpha = \boxed{\angle BAD = \angle DCA}$ \Leftarrow

⊙ $\angle ABC = \beta = \angle ACB$ (נ"ס)

$\angle ABD = \beta - \alpha$

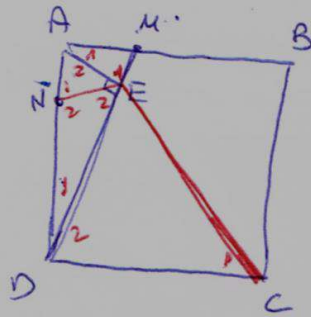
$\angle DCB = \beta - \alpha$

(ז"ס) $\triangle ABD \sim \triangle BCD$ \Leftarrow

⊙ $\frac{AD}{BD} = \frac{BD}{DC}$ (זוויות שוות)

$AD \cdot DC = BD^2$

1.81



$\angle A_1 = \alpha$ (10) $\frac{1}{2}$
 $\angle A_2 = 90 - \alpha$
 $\angle AME = 90 - \alpha$
 $\angle D_1 = \angle ADE = \alpha$
 \downarrow
 $\triangle AME \sim \triangle ADE$ (S.S.)
 $\angle D_2 = 90 - \alpha$ $\frac{1}{2}$

$\frac{AE}{DE} = \frac{AM}{AD}$
 $\frac{AM}{AD} = \frac{AN}{DC}$

$\frac{AE}{DE} = \frac{AN}{DC}$
 \downarrow

(3.S.3) $\triangle DEC \sim \triangle AEN$

$AE \cdot EC = DE \cdot EN \leftarrow \frac{AE}{DE} = \frac{EN}{EC}$ $\frac{1}{2}$

$\angle N_1 + \angle C_2 = 180^\circ \leftarrow \angle N_1 = \angle C_1$ $\frac{1}{3}$

$\triangle ENA \sim \triangle DEC \rightarrow \triangle NED$ \leftarrow

$\angle D + \angle NEC = 180^\circ \leftarrow$

$\angle NEC = 90^\circ$

$ND = AD - AN = 4 - 1 = 3$ $\triangle AND \sim \triangle CN$ $\frac{1}{2}$

$NC = \sqrt{ND^2 + DC^2} = \sqrt{3^2 + 4^2} = 5$

$R = \frac{1}{2} NC = 2\frac{1}{2}$