UNIVERSIDAD DEL SURESTE

Campus Comitán

Licenciatura de Medicina Humana

Tema: Poniendo Límites.
Materia: Biomatemáticas.
Catedrático: Dr. Rosvani Margine Morales
Irecta.
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Semestre: 2° Grupo: "C"

Comitán de Domínguez Chiapas, a 20 de febrero 2022.

Judith Anahi Diaz Gómez 08/02/22

$x = "c"$

Ejercicios:

1. $\lim_{x \to 2.5} x^2$

$\lim x^2 = (2.5)^2 = 6.25$

2. $\lim_{x \to 1.5} x^2$

$\lim x^2 = (1.5)^2 = 2.25$

3. $\lim_{x \to 3} x^2$

$\lim x^2 = (3)^2 = 9$

4. $\lim_{x \to 1} \frac{x^2-1}{x-1}$

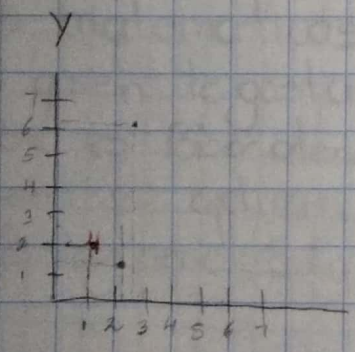
$\lim x^2 = \frac{(1)^2 - 1}{(1) - 1} = \frac{0}{0}$

Simplificar

$\frac{(x+1)(x-1)}{(x-1)} = (x+1) =$

$(1+1) = 2$

1 en x converge en 2 y.



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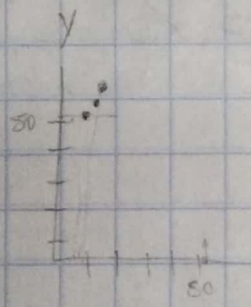
pH

1. Lim x^2 → $(7.2)^2 = 51.84$
   pH(x) →

2. Lim x^2 → $(7.4)^2 = 54.76$
   pH(x) →

3. Lim x^2 → $(7.6)^2 = 57.76$
   pH(x) →



y = Saturación de la hemoglobina
x = pH

4. Lim x^2 → $(7.5)^2 = 56.25$
   pH(x)

Ejercicios: Graficar

* pH 6.6 2
* pH 7.6 3
* pH 7.8 3
* pH 8 4

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2° "C"

Ejercicios:

		x	y
1. pH 6.6	2	$\lim x^2 \longrightarrow (6.6)^2$	$= 43.56$
2. pH 7.6	3	$\lim x^3 \longrightarrow (7.6)^3$	$= 438.97$
3. pH 7.8	3	$\lim x^3 \longrightarrow (7.8)^3$	$= 474.55$
4. pH 8	4	$\lim x^4 \longrightarrow (8)^4$	$= 4,096$

MCD de 4,096 es 2

3 ÷ x → 100%
2 → 75%

Mat. Ap. a las Cien.

MCM o MCD

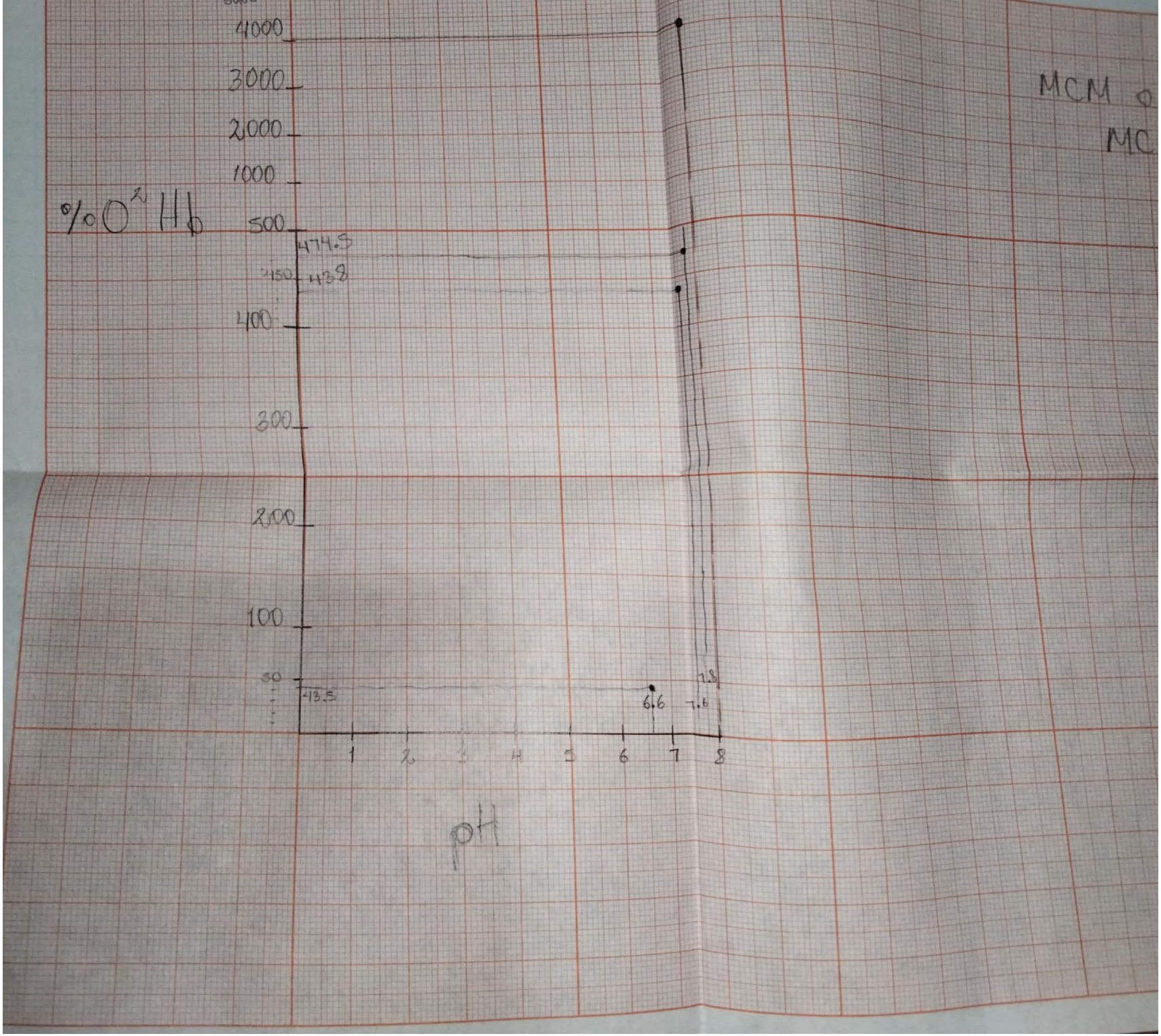
4,096	2
2,048	2
1,024	2
512	2
256	2
128	2
64	

4 → 8 → 16 → 32 → 64

32
16
8
4
2

64 | 2

norma



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2° "C"

$$\lim_{x \to 4} \sqrt{x} \quad \sqrt{4} \Rightarrow 2$$

$$\lim_{x \to 3} 3x + 4x \qquad 3(3) + 4(3)$$

$$9 + 12$$

$$21$$

Explica o desglosa paso a paso la función ① y ②

$$\lim_{x \to 2} 4x^2 \cdot 3x^2 \quad ② \quad 4(2)^2 \cdot 3(2)^2$$

$$4(4) \cdot 3(4)$$

$$16 \cdot 12$$

$$192$$

① $4 \lim_{x \to 2} x^2 \cdot 3 \lim_{x \to 2} x^2$

$$\lim_{x \to 2} \frac{x^2 - 2x}{x^3 + 3x} \longrightarrow \frac{\lim_{x \to 2} x^2}{\lim_{x \to 2} x^3} =$$

$$\lim_{x \to 2} x^2 - 2 \qquad \frac{(2)^2 - 2(2)}{(2)^3 + 3}$$

$$\lim_{x \to 2} x^3 + 3$$

$$\frac{4 - 4}{6 + 3} = \frac{0}{9}$$

$$\frac{-2\left(\lim_{x \to 2} x^2\right)}{3\left(\lim_{x \to 2} x^3\right)}$$

$$= \frac{-2(2)^2}{3(2)^3} = \frac{-2(4)}{3(8)}$$

$$\frac{-8}{24} = -0.3$$

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pH 6 — C Sat O^2 Hb D

K = C (constante)

$\lim_{x \to 6}$

Lim Kf(x)
x → 6
Lim 6 (6)
Lim = 36

PO^2 (mmHg) = 80
Presión de Oxígeno en milímetros de mercurio en la Hemoglobina.

$\lim_{x \to 80}$

$\lim_{x \to 6}$ Kf(x)
$\lim_{x \to 6}$ 80 (6) = 480

pH 9

$\lim_{x \to 9}$

Lim Kf(x)
x → 9
Lim 9 (9)
Lim = 81

Lim Kf(x)
x → 9
Lim 80 (9) = 720

pH 5.5

$\lim_{x \to 5.5}$

Lim Kf(x)
x → 5.5
Lim 5.5 (5.5)
Lim = 30.25

Lim Kf(x)
x → 5.5
Lim 80 (5.5) = 440

Tarea: Graficar

$\lim_{x \to 2} \frac{4x + 2x}{3x - 2x}$

$\lim_{x \to 2} [2x]^3$

$\lim_{x \to 6} \sqrt{2x}$

480	(2)	720	(2)	440	
240	2	360	2	220	(2)
120	2	180	2	110	2
60	2	90	2	55	5
30	2	45	3	11	
15	3	15	3		
5	5	5	5		
1		1			

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5, 3, 4, 0.1

18/02/22

$x^2 + bx + c$

1) $\lim_{x \to 2} \frac{x^2 + x - 6}{x - 2}$

$\frac{(x+3)(x-2)}{x-2}$

$(x + 3) = 2 + 3 = \boxed{5}$

2) $\lim_{x \to 2} \frac{x^2 + 5x + 4}{x^2 + 3x - 4}$ $(x+2)(x-2)$

$\lim_{x \to 2} \frac{(x+4)(x+1)}{(x+4)(x-1)} = \frac{(2+1)}{(2-1)} = \frac{3}{1} = \boxed{3}$

3) $\lim_{x \to 2} \frac{x^2 - 4}{x - 2}$

$\frac{(x+2)(x-2)}{x-2} = (x+2) = (x+2) = 4$

4) $\lim_{x \to 2} \frac{x^2 - 5x + 6}{x^2 - 12x + 20}$

$\frac{(x-3)}{(x-10)} \quad \frac{(x-2)}{(x-2)} = \frac{(x-3)}{(x-10)} = \frac{(x-3)}{-(2-10)} =$

$\frac{-1}{-8} = 0.125$

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Propiedades

$$\lim_{x \to 2} \frac{4x + 2x}{3x - 2x} = \frac{4(2) + 2(2)}{3(2) - 2(2)} = \frac{8 + 4}{6 - 4} = \frac{12}{2} = 6$$

$$\lim_{x \to 2} [2x]^3 = [2(2)]^3 = [4]^3 = 64$$

$$\lim_{x \to 6} \sqrt{2x} = \sqrt{2(6)} = \sqrt{12} = 3.4$$

$x^2 + bx + c$ + − suma
+ + restar

$$\lim_{x \to 2} \frac{(x+3)(x-2)}{x-2}$$

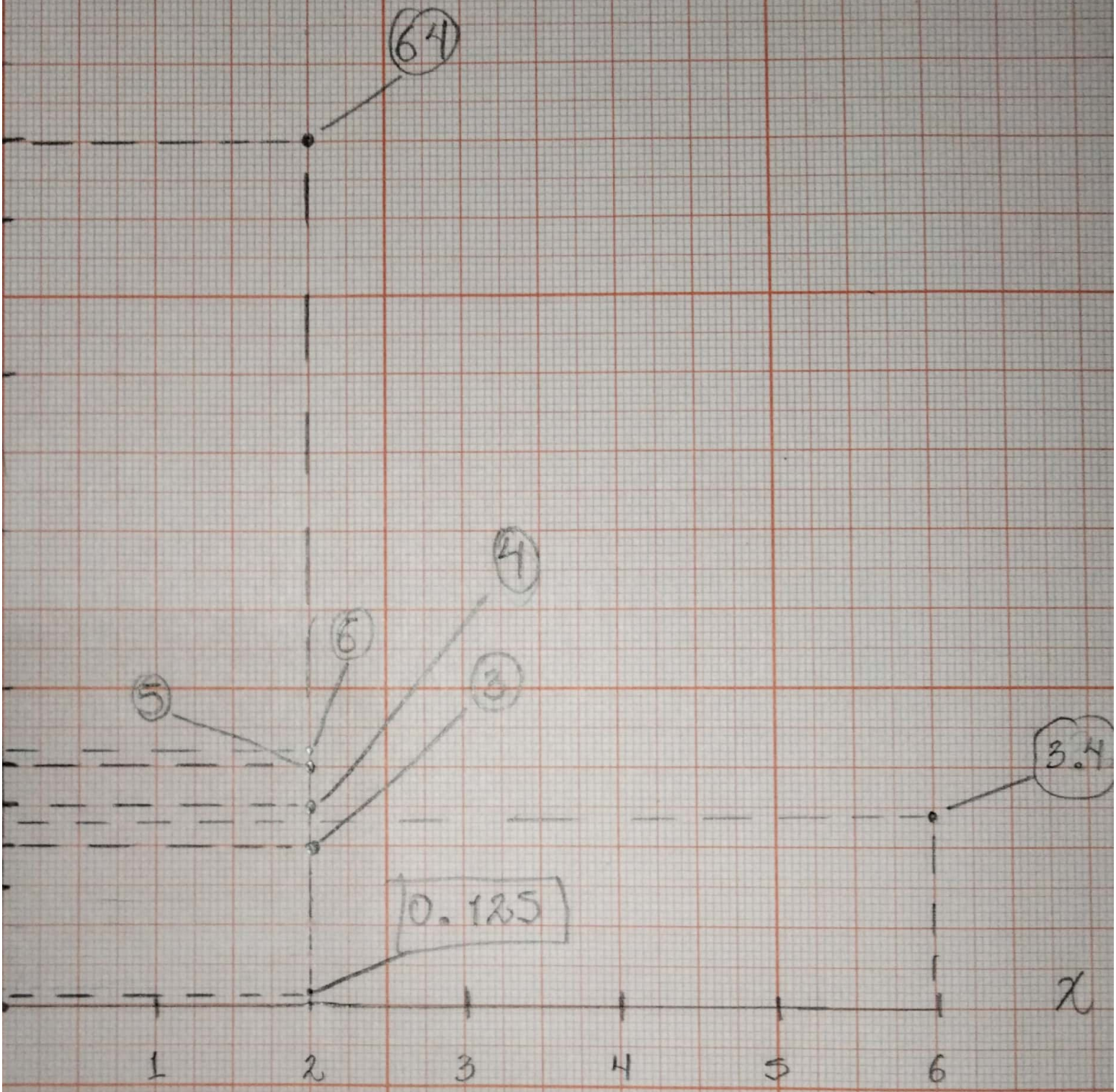
número mayor

$$(2 + 3) = 5$$

$x^2 - a$

$$\frac{x^2 - 4}{x - 2} \quad [(x+2)(x-2)] \quad x - 2$$

$$\frac{(x+2)(x-2)}{x-2} \qquad (2 + 2) = 4$$



$x \longrightarrow a$ $\quad x \to 0^- \quad x$

(Presión de oxigeno)

pH 7 $\quad pO^2 mmH^2 \quad 35$

pH 7.5

pH 8

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$\lim_{x \to 7}$ $\quad \lim_{x \to 7} Kf(x)$

$\lim_{x \to 7} 35(7) = 245$

$\lim_{x \to 7.5}$ $\quad \lim_{x \to 7.5} Kf(x)$

$\lim_{x \to 7.5} 35(7.5) = 262.5$

$\lim_{x \to 8}$ $\quad \lim_{x \to 8} Kf(x)$

$\lim_{x \to 8} 35(8) = 280$

MCM

2	4	5	5
	4	9	7
		7	7
		1	

MCM

2	6	2	2
1	3	1	

MCM

2	8	0	2
1	4	0	2
	7	0	2
	3	5	5
		7	7
		1	