1) DEFINED A BLOCK OF CELLS TO HAVE A FIXED VALUE OF 1.

	A	B	-	С
1		1 22	8	
2		1	5 1	
3			цці.	
4				
5				
6				
-				

								Wo	rkbook1		
	A	B	C	D	E	F	G	H	1	J	K
1 2		1	1	1	1	1	1	1	1	1	1
3											ക
4 5											v
6											

2) HOW TO DEFINE CELL WIDTH OVER A RANGE.

1	A	B	С	D
2		1	1	1
3				
4				

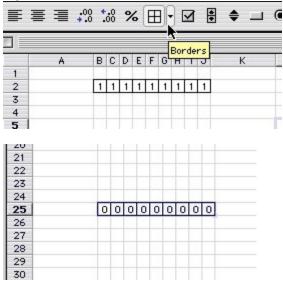
								📃 🔀 Wo	rkbook1		
	A	B	C	D	E	F	G	H		Jŧ	К
1		1	1	1	1	1	1	1	1	1	
3											
4 5											
6											

									We 🛛	rkbook1		
	A	В	++ c	; [D	E	F	G	H	1	J	К
1			1	1	1	1	1	1	1	1	1	
4												
5												
0												

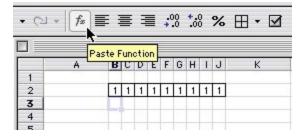
3) DOUBLE CLICK HERE TO MINIMIZE CELL WIDTH OVER A RANGE.

2 1 1 1 1 1 1 1 1 1 3 4		A	B	C	D	E	3	G	H	1	J	K
<u>3</u> 4	2		1	1	1	1	1	1	1	1	1	
4	3											
	4		- 11									
6	6											

4) MAKE TWO REGIONS APART WITH FIXED VALUES



5) USE THE AVERAGE FUNCTION



	Paste Function
Function category:	Function name:
Most Recently Used All Financial Date & Time Math & Trig Statistical Lookup & Reference Database Text Logical Information	SUM STDEVP SIN AVERACE SIGN OFFSET LOOKUP ROW MIN ABS
	metic mean) of its arguments, which can be
	netic mean) of its arguments, which can be or references that contain numbers. Cancel OK

Number 1	B2	1	-
Number2	C3	1 = 0	
Number3	B4	1 = 0	
Number4	A3	1 = 0	
Number5		💽 = number	

Returns the average (arithmetic mean) of its arguments, which can be numbers or names, arrays, or references that contain numbers.

Number 4: number 1, number 2,... are 1 to 30 numeric arguments for which you want the average.

Cancel

OK

Formula result = 1

2

	A	В	С	D	Ε	F	G	Н	1	J	k
1		-			_	_		_	_		
2		1	1	1	1	1	1	1	1	1	
3		1									
4											
5											
6											
7											
8											

6) SET THE SPREAD SHEET TO ITERATE

File	Edit View II	nsert Form
12 4	Undo Auto F Can't Repea	E
	Cut Copy Paste	ЖХ ЖС ЖV
	Paste Specie Paste as Hyj	
	Fill Clear Delete Delete Shee Move or Cop	
) 2 3	Find Replace Go To	жF ЖH
4 5 5	Links Object	-
7 3 9	Preferences	i

7) NOTE THE "CALC NOW" COMMAND

Calculation Automatic	Calc Now (Cmd+=)
) Automatic except tables) Manual Recalculate before save	Calc Sheet
✓ Iteration Maximum iterations: 100 Maximum change: 0.00001	₩orkbook options ✓ Update remote references □ Precision as displayed ✓ 1904 date system ✓ Save external link values ✓ Accept labels in formulas

8) FILL IN BETWEEN THE FIXED CELL VALUES

	A	В	С	D	Ε	F	G	н	1	J	ł
2		1	1	1	1	1	1	1	1	1	
3		4.	5	1	1000		1	1			
4		L	4								
5											
6											
7											
8											
9											
10											
4.4											

	A	В	C	D	E	F	G	H	1	J	
1											
2		1	1	1	1	1	1	1	1	1	
3		1	1	1	1	1	1	1	1	1	
4											2
4 5										٢	2
6											
7											
8											
9											
10											
44											
	A	В	C	D	E	F	G	н	1	J	
	A	B	C	D	E	F	G	H	1	J	
2	A	B	C	D	E	F	G	H	1	J	
2	A									1	
2 3 4	A	1	1	1	1	1	1	1	1		
2 3 4 5	A	1	1	1	1	1	1	1	1	1	
2 3 4 5 6	A	1	1	1	1	1	1	1	1	1	
2 3 4 5 6 7	A	1	1	1	1	1	1	1	1	1	
2 3 4 5 6 7 8	A	1	1	1	1	1	1	1	1	1	
2 5 6 7 8	A	1	1	1	1	1	1	1	1	1	
2 3 4 5 6	A	1	1	1	1	1	1	1	1	1	

	A BCDEFGHI	J
1		
2		1
3	1 1 1 1 1 1 1 1	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		1
17		
18		1
19		
20		
21		1
22		T
23		
24		1_
25		្រី
26		10
27		-
28		-
29		-
		-

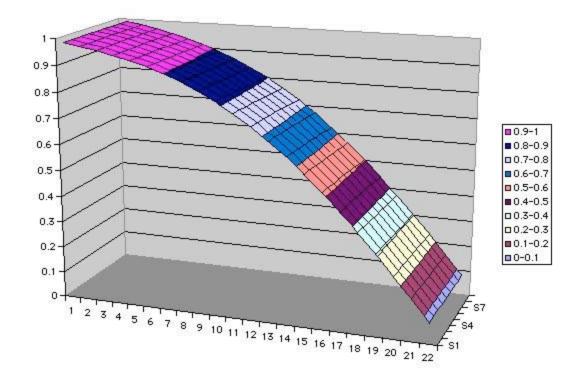
ITERATE

	A	В	С	D	Е	F	G	н	1	J	K
1											
2		1	1	1	1	1	1	1	1	1	
3		1	1	1	1	1	1	1	1	1	
4		1	1	1	1	1	1	1	1	1	
5		1	1	1	1	1	1	1	1	1	
6		1	1	1	1	1	1	1	1	1	
7		1	1	1	1	1	1	1	1	1	
8		1	1	1	1	1	1	1	1	1	
9		1	1	1	1	1	1	1	1	1	
10		1	1	1	1	1	1	1	1	1	
11		1	1	1	1	1	1	1	1	1	
12		1	1	1	1	1	1	1	1	1	
13		1	1	1	1	1	1	1	1	1	
14		1	1	1	1	1	1	1	1	1	
15		1	1	1	1	1	1	1	1	1	
16		1	1	1	1	1	1	1	1	1	
17		1	1	1	1	1	1	1	1	1	
18		1	1	1	1	1	1	1	1	1	
19		0	0	0	0	0	0	0	0	0	
20		0	0	0	0	0	0	0	0	0	
21		0	0	0	0	0	0	0	0	0	
22		0	0	0	0	0	0	0	0	0	
23		0	0	0	0	0	0	0	0	0	
24		0	0	0	0	0	0	0	0	0	
25		0	0	0	0	0	0	0	0	0	
26											
27											
28											
29											

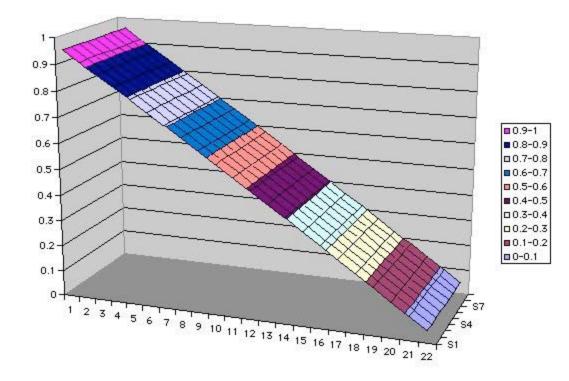
10) MAKE A 3D GRAPH

<u> </u>	3-D View			A::	1	00	76		•	Ð	6
Contraction of the local division of the loc	D Surface	Ch	art	1							
P			D		F	G	Н	1	J	8	К
1				2							
2	1	1	1	1	1	1	1	1	1		
3	1	1	1	1	1	1	1	1	1		
4	1	1	1	1	1	1	1	1	1		
5	1	1	1	1	1	1	1	1	1		
6	1	1	1	1	1	1	1	1	1		
7	1	1	1	1	1	1	1	1	1		
8	1	1	1	1	1	1	1	1	1		
9	1	1	1	1	1	1	1	1	1		
10	1	1	1	1	1	1	1	1	1		
11	1	1	1	1	1	1	1	1	1		
12	1	1	1	1	1	1	1	1	1		
13	1	1	1	1	1	1	1	1	1		
14	1	1	1	1	1	1	1	1	1		
15	1	1	1	1	1	1	1	1	1		
16	1	1	1	1	1	1	1	1	1		
17	1	1	1	1	1	1	1	1	1		
18	1	1	1	1	1	1	1	1	1		
19	0	0	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0		
21	0	0	0	0	0	0	0	0	0		
22	0	0	0	0	0	0	0	0	0		
23	0	0	0	0	0	0	0	0	0		
24	0	0	0	0	0	0	0	0	0		
25	lo	0	0	0	Ō	0	0	0	ō		
26	-	-	-	-	-	-	-	-	-		
27						-					

11) NOTE QUITE A RAMP. HIT THE "CALC NOW" COMMAND SEVERAL TIMES.



12) FOR THE SQUARE RESISTOR, THIS IS WHAT THE VOLTGE SHOULD LOOK LIKE.



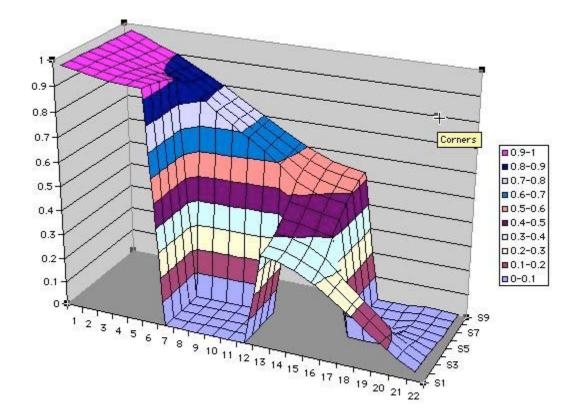
13) NOW CUT OUT SOME CELL AREAS.

]	Clear Co	ant.	opt	7								
	A B	1000		감	E	G	н	T	J	к	2	
1				_	-							
2	1	1	1	1	1	1	1	1	1			1
3	1	1	1	1	1	1	1	1	1			
4	1	1	1	1	1	1	1	1	1			
5	1	1	1	1	1	1	1	1	1			
6	1	1	1	1	1	1	1	1	1			-
7	1	1	1	1	1	1	1	1	1			
8	1	1	1	1	1	1	1	1	1			
9	1	1	1	1	1	1	1	1	1			
10	1	1	1	1	1	1	1	1	1			
11	1	1	1	1	1	1	1	1	1			
12	1	1	1	1	1	1	1	1	1			
13	1	1	1	1	1	1	1	1	1			
14	0	0	0	0	0	0	0	0	0			-
15	0	0	0	0	0	0	0	0	0			
16	0	0	0	0	0	0	0	0	0			
17	0	0	0	0	0	0	0	0	0			
18	0	0	0	0	0	0	0	0	0			
19	0	0	0	0	0	0	0	0	0			
20	0	0	0	0	0	0	0	0	0			
21	0	0	0	0	0	0	0	0	0			
22	0	0	0	0	0	0	0	0	0			-
23	0	0	0	0	0	0	0	0	0			
24	0	0	0	0	0	0	0	0	0			
25	0	0	0	0	0	0	0	0	0			-
26	1000		-	10.0		1.0						
27												

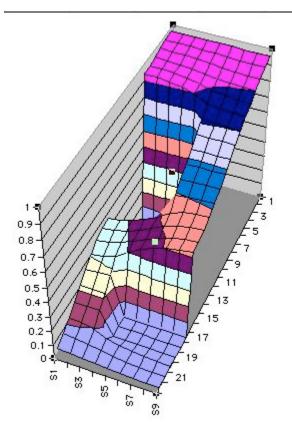
	A	В	С	D	Ε	F	G	н	1	J
1										
2		1	1	1	1	1	1	1	1	1
3		1	1	1	1	1	1	1	1	1
4		1	1	1	1	1	1	1	1	1
5		1	1	1	1	1	1	1	1	1
6		1	1	1	1	1	1	1	1	1
7		1	1	1	1	1	1	1	1	1
8		1	1	1	1	1	1	1	1	1
9							1	1	1	1
10							1	1	1	1
11							1	1	1	1
12							1	1	1	1
13							1	1	1	1
14							1	1	1	1
15		0	0	0	0	0	0	0	0	1
16		0	0	0	0	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0
19		0	0	0						
20		0	0	0						
21		0	0	0						
22		0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0
25		0	0	0	0	0	0	0	0	0

15) MAKE A SNAKE RESISTORS AND HIT THE "CALC NOW" COMMAND SEVERAL TIMES.

	3	-D Vi	ew			A	10	009	8	•	Ð	Θ
	3-1	D Sur	fac	e C	hai	rt I						
	A	B	C	D	E	F	G	H	T	J	к	
1						5						
2		1	1	1	1	1	1	1	1	1		
3		1	1	1	1	1	1	1	1	1		
4		1	1	1	1	1	1	1	1	1		
56		1	1	1	1	1	1	1	1	1		
6		1	1	1	1	1	1	1	1	1		
7		1	1	1	1	1	1	1	1	1		
8		1	1	1	1	1	1	1	1	1		
9		-					1	1	1	1		
10		1					1	1	1	1		
11							1	1	1	1		
12							1	1	1	1		
13							1	1	1	1		
14							1	1	1	1		
15		0	0	0	0	0	1	1	1	1		
16		0	0	0	0	0	1	1	1	1		
17		0	0	0	0	0	0	1	1	1		
18		0	0	0	0	0	0	1	1	1		
19		0	0	0								
20		0	0	0								
21		0	0	0								
22		0	0	0	0	0	0	0	0	0		
23		0	0	0	0	0	0	0	0	0		
24		0	0	0	0	0	0	0	0	0		
25		0	0	0	0	0	0	0	0	0		
26							10.17					



16) SELECT THE CORNER OF THE 3D GRAPH AS SHOWN HERE AND DRAG TO CHANGE THE VIEW ANGLE.



17) ELSE USE THE 3-D VIEW MENU.

Chart	Window	He
Cha	rt Type	
Sour	rce Data	
Chai	rt Options	
Loca	ation	
Add	Data	
Add	Trendline	
3-D)	View	