

Quintessence

A Packet of Puzzles by John Bulten

Editor's Note: The last, giant grid here is one of the hardest puzzles we have ever presented. If I knew in advance John wanted to make a puzzle like this, I would have said no because of the combination of so many kinds of rules, new puzzle styles, and my expectation it would take hours to solve (and it certainly does!). But there is something inspirational about the elements brought together here by John, many unexpected Ahas that will cure the headaches you'll also get in the middle. While the giant puzzle was originally created to stand on its own, John has added four medium difficulty puzzles for the four subgenres. Try to solve one of these in each of the next four days as you prepare for the large test by the end of the week. -TS

Author's Note: Thanks to Thomas and Grant for encouraging me to construct new puzzle types. Thanks to patron Randy Rogers for requesting 4-grid combination puzzles, which sparked this idea. Thanks to Prasanna for his giant 11/29/15, 3/2/16, and 3/2/17 puzzles, which directly inspired this puzzle. Thanks to Serkan for inventing Light and Shadow, because whenever I tried experimenting with shading puzzles I found myself trying to reinvent Light and Shadow. Thanks to Izak for inventing Surf, which has more potential than either of us realize.

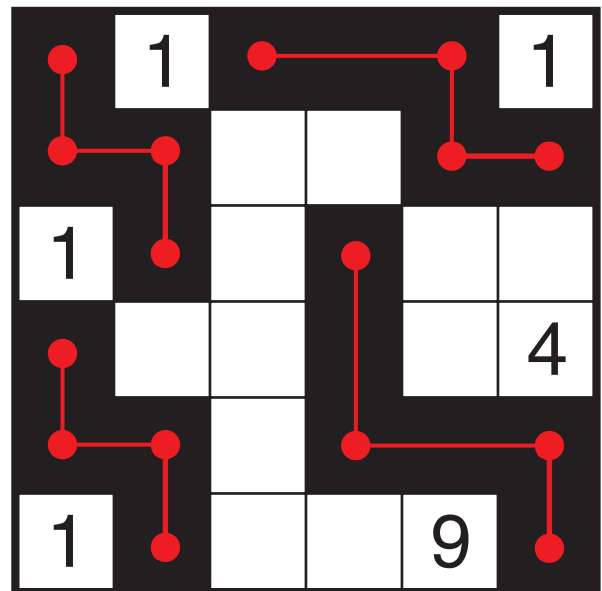
Thanks to God for this day. -JB

Surf Rules and Info

(Surf is a shading/object placement puzzle created by Izak Bulten, which draws on elements from other shading puzzles like Nurikabe. We will have several more Surf puzzles from Izak and John Bulten in a few months when we start a new “Puzzlemasters’ Workshop” book series.)

Rules: SHADE some white cells black so that the grid is divided into white and black regions. Cells with numbers cannot be shaded. Each white region must contain exactly one number and have the same area in cells as that number. Two white or two black regions may only touch diagonally. Each black region must be exactly specified by one shape graph given below the grid, where graph edges represent one-cell-wide straight paths with variable lengths, and graph nodes represent ends, turns, and branch points. Graphs can be rotated and reflected, and, if multiple graphs are given, not all need be used.


	1				1
1					
					4
1				9	



Shape Library:

2018/03/26:
Surf by John Bulten
Theme: Pi

	3			1					4
				15					
A									
		9				2		6	
B									
				53					
C									
D									

Shape Library = 

Turf Rules and Info

(Turf is a shading puzzle created by John Bulten. We will have several more Turf puzzles from John in a few months when we start a new “Puzzlemasters’ Workshop” book series.)

Rules: SHADE some white cells black so that one of the grid’s clues in each contiguous white or black region indicates the clued region’s area.

(Each contiguous region must therefore have at least one clue.)

Any other clue in the region must indicate how many of the clued cell’s immediate neighbors are white (up to 9, including itself).

		6		1	5
		5			7
	4			5	
	3			3	
1			1		
1	9		4		

		6		1	5
		5			7
	4			5	
	3			3	
1			1		
1	9		4		

2018/03/27:
Turf by John Bulten
Theme: Anchor

	5	1					0		
	2	1		2		2		9	
			7				5	9	5
		2		3		2	2		
A					11				
B		9		4					
			2	6					
C	4		4						
		8							
D			3						20

Winddraughts Rules and Info

(Winddraughts is John Bulten's variation on the puzzles Four Winds and Checkered Fillomino.)

Rules: SHADE some white cells black so that each contiguous white region is a valid Four Winds region (that is, the white region consists of at least two white cells, and has at most one "central" cell where both vertical and horizontal connections are made; if the white region contains a numeric clue, this clue must be the "central" cell and represent the count of all other cells in the region, which must be connected vertically or horizontally to this clue). An arrow clue must belong to a white region and point to its "central" cell (assignment of which cell is "central" is not necessary in one-cell-wide rectangular regions). The contiguous black regions can contain zero, one, or more clues. All clues inside a black region must indicate that region's area.

			2		
2			6		
				◀	
	▲				
		7			2
		7			

	▼		2	◀	◀
2	▼		6		
▶	9	◀	◀	◀	◀
	▲				▼
	▲	7			2
	▲	7			▲

(Extra arrows and numbers shown for clarity but not needed for the solution. 9 would be the central number of the largest white region. The smallest 1x2 rectangle could have a "1" added to either of its cells.)

2018/03/28:
 Winddraughts by John Bulten
 Theme: Hidden

					▼	4			
				4			◀		
		▲							3
A	2		8				1		
B					11				
				13					
C		7				6			6
D	4						◀		
		1			6				
			7	▲					

Light Rules and Info

(Light is John Bulten's variation of the shading puzzle Light and Shadow, created by Serkan Yürekli. Unlike Light and Shadow, where all numbered cells start white or black, in Light puzzles the numbered cells that are not shaded or circled may be either white or black in the solution.)

Rules: SHADE some white cells black so that exactly one of the grid's clues appears in each contiguous white or black region and indicates the clued region's area. Circled numbers indicate cells that must remain white.

	7	2			
	7	2			
			②	7	
			2	7	

	7	2			
	7	2			
			②	7	
			2	7	

2018/03/29:
Light by John Bulten
Theme: Maze

		70			3				
	12								
	8						1		
		2							1
				2					
A					3				
		3							
B							4		
				3					
C					4				
	1						3		
		4							9
D								3	
				3			1		

2018/03/30:
Quintessence by John Bulten
Theme: 14 Nisan, 2018 (Pasch 5778)

Rules:

Light (top left grid, 100 cells): Rules as before, except for * below.

Winddraughts (top right grid, 100 cells): Rules as before, except for * below.

Surf (bottom right grid, 200 cells): Rules as before, except for * below.

Turf (bottom left grid, 200 cells): Rules as before, except for * below.

* Each puzzle's contiguous regions may extend beyond the borders of its individual grid and cross into any other cells across the whole diagram. Any region that has one or more cells in a puzzle grid must obey all the rules of that grid. For instance, all regions covering the Light grid have an area clue in that grid; all white regions covering the Winddraughts grid, and all black regions covering the Surf grid, are limited to the shapes specified by their grids' rules; all regions covering the Turf grid have an area clue in that grid.

Two cells connected by a white dot must be the same color; two cells connected by a black dot must be opposite colors.

Quintessence (100 cells, plus the other 4): Clues in the space between grids may be either numeric or alphabetic, where A equals 0, B equals 1, C equals 2, and so on as shown.

A = 0	F = 5	K = 10	P = 15	U = 20	Z = 25
B = 1	G = 6	L = 11	Q = 16	V = 21	
C = 2	H = 7	M = 12	R = 17	W = 22	
D = 3	I = 8	N = 13	S = 18	X = 23	
E = 4	J = 9	O = 14	T = 19	Y = 24	

SHADE some white cells black so that any black clue cell between two puzzle grids indicates how many color changes, white-black or black-white, occur in the entire row (if the clue is in columns 11 or 12) or entire column (if the clue is in rows 11 or 12) from 0 to 31. In other words, if all edges between cells in that row or column had dots, a black clue indicates how many dots would be black. Any white clue cell between two puzzle grids must indicate how many cells in the same position within the two grids are the same color. For clues in columns 11 or 12, compare the 10 cells in that row in the left grid to the 10 cells in the same position in the right grid and double that value for the total count (from 0 to 20). For clues in rows 11 or 12, compare the 10 cells in that column in the top grid to the top 10 cells in the bottom grid, and then again to the next 10 cells in the bottom grid, summing the total count of matches from 0 to 20.

Some cells in the space between grids are enclosed by bold black borders and are missing-clue cells. ADD up the number of cell matches (up to 20) and the number of color changes (up to 31) to determine any missing white clue or black clue. FILL any such cell with the appropriate letter clue for its color to reveal message text. REPEAT until the solution is revealed, consisting of 2 words and 2 half-words (which can be combined to form a third word), with 28 total letters. The solution string is these 3 words in ABC order, in all capital letters and separated by commas.

1		3			4			9
		6	E	5		▶		
1				○			9	
7		5			▶			2
J	○	○	○	○	○	○	○	●
6	○							●
3	4	6	11		●			
19					●			
1	2	○		4	3			9
		7	5		●			
5	7			○				
		4	4			7		
			7		○			
2	3	3	1	0	E			3

1		3			4			9
		6	E	5		▶		
1				○			9	
7		5			▶			2
J	○	○	○	○	○	○	○	●
6	○							●
3	4	6	11		●			
19					●			
1	2	○		4	3			9
		7	5		●			
5	7			○				
		4	4			7		
			7		○			
2	3	3	1	0	E			3



Example and solution grid by Thomas Snyder,
 using 4x4 and 4x8 grids instead of 10x10 and 10x20 grids;
 comparisons in between grids are for 4 cells in rows (doubled)
 or for the top 4 cells against the bottom 8 cells in columns.

									?	1	70		70	70		
		6	2	1								6		◀		
									4	?		2		13		
	2					4	1		•				5			
									•					70		
	2		2			1			•				▶		6	
								70								70
1							2						▼		3	
		70	70		9	1		5	N	•			3	1		7
P			?			S				•					?	8
?	○		A		•	•	•	•	•	•	H	○	•	•	•	○
										•						?
1		2		5		5	3	3	4	•	I					
1	3	•	2		9					•					15	3
7		3	•		70				4	•						
				•	3		1	4	3	4	S	•				
5	7			3	•	3	1	3	1							
	5			2					1							
					○					?	•	A				
3					○			5	3	3	•					7
			○	1	4		6	4		•			○			
		○		2	1		2	1	2	N	?		○		1	
1	1	5		3	5											22
4		4		6	5									3		
2	5	7							0	•						2
														8		
4				6			2									2
7	6	3	4		6			1	0	?	•	20				
3	6	3	5		2											
3					7		20		13						10	
					8		70	4	4	18	•	?				
1	2	2	3		6		3		1				13		1	

