

FACTOR CAVE

DIFFICULTY LEVEL:

★ – ★★ ★★ ★★★★★

In a **Factor Cave** puzzle, the goal is to shade some of the squares of a grid to map the walls of a cave. Squares with numbers cannot be shaded.

Each number clue gives a product: the number of squares it can “see” in its row times the number of squares it can “see” in its column.

A number can see all unshaded squares (including itself) that are not blocked by shaded squares vertically and horizontally.

First, squares with numbers cannot be shaded, so we circle them to show they must be unshaded.

Next, we look at the 16 clue. There are several ways to write 16 as the product of two numbers: 16×1 (or 1×16), 8×2 (or 2×8), and 4×4 . The only option that fits in this grid is 4×4 . So, the 16 can see 4 squares in its row and 4 squares in its column.

We circle these squares to show they must be unshaded.

Next, 9 can be written as 9×1 (or 1×9) or 3×3 , but only 3×3 fits.

The only way that the 9 can see 3 squares in its row and 3 squares in its column is shown on the right.

We finish the puzzle as shown and check our work:

- The 6 can see 3 squares in its row and 2 squares in its column. $3 \times 2 = 6$ ✓
- The 2 can see 1 square in its row and 2 squares in its column. $1 \times 2 = 2$ ✓

	16		
			2
9			
		6	

	16		
			2
9			
		6	

○	16	○	○
	○		2
9	○		
	○	6	

○	16	○	○
○	○		2
9	○	○	■
■	○	6	

○	16	○	○
○	○	■	2
9	○	○	■
■	○	6	○

25. H

4				
	4			
		9		
			16	
				25

26. H

4				2
		1		
	3		2	
		4		
3				1

27. H

		20		
				3
15				
	6			
1				1

28. H

	1		2	
3		4		5
	8		4	

29. H

			6	
10				
		10		
	20			15

30. H

			6	
10				
		10		
	20			16

31. H

			4	
		6		
6	6			4
		6		
			12	

32. H

	4			4
		16		
			10	
				3
12				

33. H

	4			8
		3		
		6		
2			4	

34. H

4				4
		4		
	4			
4			4	

35. H

2			4	
	2			6
		6		
3				
	2			

36. H

	5			
				10
		15		
20				
			25	

37. H

	25				
					36
		12			
			6		
30					
				6	

38. H

		12	6		
	12			6	
		24	12		
12					10
	8			12	

39. H

			4		
					8
	12				
				16	
24					
		20			

40. H

		10			
	12				
					6
15					
				16	
			20		

25.

4				
	4			
		9		
			16	
				25

26.

4				2
		1		
	3		2	
		4		
3				1

27.

		20		
				3
15				
	6			
1				1

28.

	1		2	
3		4		5
	8		4	

29.

			6	
10				
		10		
	20			15

30.

			6	
10				
		10		
	20			16

31.

			4	
		6		
6	6			4
		6		
			12	

32.

	4			4
		16		
			10	
				3
12				

33.

	4			8
		3		
		6		
2			4	

34.

4				4
		4		
	4			
4			4	

35.

2			4	
	2			6
		6		
3				
	2			

36.

	5			
				10
		15		
20				
				25

37.

	25			
				36
		12		
			6	
30				
				6

38.

		12	6	
	12			6
		24	12	
12				10
	8			12

39.

			4	
				8
	12			
			16	
24				
		20		

40.

		10		
	12			
				6
15				
			16	
		20		