

1 a

7	→	→	12	→	→	9	→	→	8	→	12	9	8	12	7	11	6	5	6	
5	→	→	5	→	→	12	→	→											5	
Close						Open									Close					
c	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	c	bc	
						b			→			→			→			b		

6	11	7	7	12	7
c	→	b	b	→	b

2

7	12	12	→	12	7	12	12	→	12	6	7	7	→	7	6	7	7	→	7	
5	5	5	→	5	5	5	5	→	5	5	5	5	→	5	5	5	5	→	5	
Open									Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c

x 2

3

7	12	12	→	12	7	12	12	→	12	6	7	7	→	7	6	11	7	7	12	7
5	5	5	→	5	5	5	5	→	5	5	5	5	→	5	5	5	5	→	5	5
Open									Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c

x 2

4 a

9	→	→	→	→	→	8	→	→	→	→	→	7	→	→	→	→	→	11	→	11	7	→	7
12	→	→	→	→	→	7	→	→	→	→	→	6	→	→	→	→	→	6	→	6	6	→	6
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

4 b

7	→	→	→	→	→	11	→	11	7	→	7	6	→	→	→	→	→	6	11	7	7	12	7
6	→	→	→	→	→							6	→	→	→	→	→	5	→	→	→	→	→
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

4 c

9	→	→	→	→	→	8	→	→	→	→	→	7	→	→	→	→	→	11	→	11	7	→	7
12	→	→	→	→	→	7	→	→	→	→	→	6	→	→	→	→	→	6	→	6	6	→	6
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

4 d

7	→	→	→	→	→	11	→	11	7	→	7	5	6	5	→	6	5	6	5	→	6	5	6
6	→	→	→	→	→																		
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

5

7	6	5	→	6	5	6	5	→	6	7	6	5	→	6	5	6	5	→	6				
Open										Close													
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

x 2

6

12	5	6	12	5	6	12	5	6	12	5	6	7	5	6	7	5	6	7	5	6	7	5	6
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

x 2

7

12	5	12	12	5	12	12	5	12	12	5	12	7	5	7	7	5	7	7	5	7	7	5	7
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

x 2

8 a

7	→	→	6	→	→	7	6	11	→	7	6	→	→	5	→	→	6	5	10	→	6		
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

8 b

7	11	6	→	10	5	10	5	4	→	5	5	→	→	→	→	→	6	11	7	7	12	7	
Open												Close											
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

9 a

12	7	7	→	12	12	7	7	11	7	7	6	6	→	7	7	6	6	11	7				
Open										Close													
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

9 b

12	7	7	→	12	12	7	7	11	7	7	6	6	→	7	7	11	6	6	11	6			
Open										Close													
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

10 a

6	11	6	5	→	12	12	7	7	11	7	6	11	6	5	→	7	7	11	6	6	11	6	
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

10 b

6	11	6	5	→	12	12	7	7	11	7	5	6	5										
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	bc		bc									

11 a

7	6	12	5	12	7	11	6	12	5	12	6	5	7	4	7	6	11	6	7	4	7		
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

11 b

7	6	12	5	12	7	11	6	12	5	12	6	5	7	4	7	6	11	6	7	12	7		
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

11 c

7	6	12	5	12	7	11	6	12	5	12	6	5	7	4	7	6	11	6	5	10	5		
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

11 d

6	11	6	5	→	12	7	12	7	6	11	6	6	11	6	5	→	7	6	11	6	7	12	7
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

12

12	5	12	7	5	6	12	5	12	7	5	6	7	4	7	6	4	5	7	4	7	6	4	5
Open						Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

13

5			7		12	5	12	12	5	7	12	5	12	7	4	6	7	4	6	7	4	6	7	4	7
Open								Close																	
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c		

x 2

14

12	5	7	12	5	7	12	5	7	12	5	7	7	5	6	7	5	6	7	5	6	7	5	7
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

x 2

15 a

8	9	8	12	8	12	7	12	7	11	7	11	12	8	12	7	12	7	11	7	11	6	11	6
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

15 b

12	8	12	7	12	7	11	7	11	6	11	6	11	7	11	6	11	6	10	6	10	5	10	6
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

15 c

11	7	11	6	11	6	10	6	10	5	10	6	11	7	11	6	11	6	10	6	10	5	10	6
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

15 d

11	7	11	6	11	6	10	6	10	5	10	6	5	→	→	→	→	→	6	11	7	7	12	7
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

16 a

9	6	9	8	6	8	12	6	12	7	5	7	12	5	12	7	5	7	11	5	11	6	4	6
Open								Close															
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c

16 b

12	5	12	7	5	7	11	5	11	6	3	6	5	→	→	→	→	→	6	³ 11	7	7	⁴ 11	7			
Open												Close														
b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c	b	→	c	c	→	c			