

Investigating Doubling and Halving!

Explore the following sequences but beware, there are some missing numbers!

Explain if the pattern is doubling or halving. And work out the missing numbers of the sequence.

1)	13	26		104		416
2)	480		120			
3)	96		24			
4)	19	38		152		608
5)	10			80		
6)	1120		280			35
7)	8			64		
8)	25		100			
9)	2016			252		
10)	17	34				

Follow the rule and write the first 10 numbers in the sequence.

- | | |
|----------------------------------|---------------------|
| 11) Rule: Double and add 1. | Starting Number = 2 |
| 12) Rule: Double and subtract 2. | Starting Number = 7 |
| 13) Rule: Double and add 2. | Starting Number = 9 |
| 14) Rule: Double and add 10. | Starting Number = 5 |
| 15) Rule: Double and subtract 1. | Starting Number = 3 |

Ultimate Challenge

Now... find the rule in these sequences.

16) 3, 7, 15, 31, 63.

17) 100, 60, 40, 30, 25.

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Follow the rule and write the first 10 numbers in the sequence.

- | | |
|----------------------------------|----------------------|
| 11) Rule: Double and add 1. | Starting Number = 12 |
| 12) Rule: Double and subtract 2. | Starting Number = 27 |
| 13) Rule: Double and add 2. | Starting Number = 19 |
| 14) Rule: Double and add 10. | Starting Number = 25 |
| 15) Rule: Double and subtract 1. | Starting Number = 33 |

Ultimate Challenge

Now... find the rule in these sequences.

- 16) 3, 7, 15, 31, 63.
- 17) 100, 60, 40, 30, 25.
- 18) 14, 26, 50, 98, 204.
- 19) 5, 15, 35, 75, 155.
- 20) 966, 482, 240, 118, 57