

Series and Sequences Kahoot questions

1. Is the sequence arithmetic, geometric, or neither? 41, 46, 51, 56, ...

arithmetic

2. What is the common difference if the sequences? 41, 46, 51, 56, ...

$$46-41=5, 51-46=5, 56-51=5$$

5

3. What is the explicit formula for the sequence? 41, 46, 51, 56, ...

$$5n+36 \gg 5(1)+36=41, 5(2)+36=46, 5(3)+36=51, 5(4)+36=56$$

$$41+(n-1)5 \gg 41+(1-1)5=41, 41+(2-1)5=46, 41+(3-1)5=51, 41+(4-1)5=56$$

4. What is the 10th term of the sequence? 41, 46, 51, 56, ...

41, 46, 51, 56, 61, 66, 71, 76, 81, 86, ...

5. Is the sequence arithmetic, geometric, or neither? 2, 5, 9, 14, ...

neither

6. Is the sequence arithmetic, geometric, or neither? 15, 12, 9, 6, ...

arithmetic

7. What is the common difference for the sequence? 15, 12, 9, 6, ...

$$12-15=-3, 9-12=-3, 6-9=-3$$

-3

8. What is the explicit formula for the sequence? 15, 12, 9, 6, ...

$$15+(n-1)(-3) \gg 15+(1-1)(-3)=15, 15+(2-1)(-3)=12, 15+(3-1)(-3)=9, 15+(4-1)(-3)=6$$

$$-3n+18 \gg -3(1)+18=15, -3(2)+18=12, -3(3)+18=9, -3(4)+18=6$$

9. What is the 12th term of the sequence? 15, 12, 9, 6, ...

15, 12, 9, 6, 3, 0, -3, -6, -9, -12, -15, -18, ...

10. What is the sum of the series? $15+12+9+\dots+-18$?

$$15+12+9+6+3+0-3-6-9-12-15-18=-18$$

11. Is the sequence arithmetic, geometric, or neither? 9, -18, 27, -36, ...

neither

12. Is the sequence arithmetic, geometric, or neither? 2, 6, 18, ...

geometric

13. What is the common ratio for the sequence? 2, 6, 18, ...

$$6/2=3, 18/6=3$$

3

14. What is the explicit formula for the sequence? 2, 6, 18, ...

$$2 \cdot 3^{n-1} \gg 2 \cdot 3^{1-1}=2, 2 \cdot 3^{2-1}=6, 2 \cdot 3^{3-1}=18$$

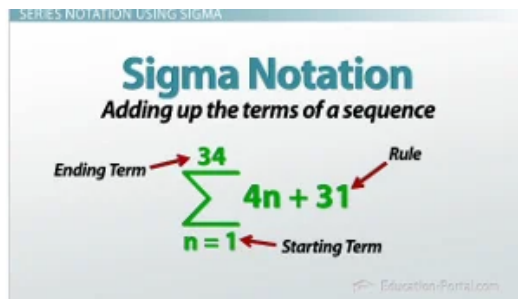
15. What is the 9th term for the sequence? 2, 6, 18, ...

2, 6, 18, ..., 13122

16. What is the sum for the series? $2+6+18+\dots+13122$

19682

17. What kind of sequence does the rule in this summation notation represent?



arithmetic

18. Is the following series arithmetic, geometric, or neither? $1+2+4+\dots$

geometric

19. What is the common ration for the sequence related to the series? $1+2+4+\dots$

$2/1=2$, $4/2=2$

2

20. What is the sum of the first 8 terms of the geometric series? $1+2+4+\dots$

$$1+2+4+8+16+32+64+128=255$$

21. Find the sum represented here.

SERIES NOTATION USING SIGMA

Sigma Notation
Adding up the terms of a sequence

Ending Term 34
 $\sum_{n=1}^{34} 4n + 31$
Starting Term $n = 1$
Rule $4n + 31$

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(hint: plug into calculator)

$$3434$$

22. Find the sum represented here.

Upper limit or greatest value of n $\Rightarrow 6$

Explicit formula for the sequence \downarrow

Lower limit or smallest value of n $\Rightarrow n = 1$

$$\sum_{n=1}^6 6n + 2$$

$$138$$

23. Does the series for the geometric sequence converge or diverge? $4+2+1+1/2+\dots$

converge

24. what is the sum of the series? $4+2+1+1/2+\dots$

$7.5+1/4+1/8+1/16+1/32+\dots \Rightarrow 8$