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$2(4)(4) = 32$

$2(4)^2 = 32$

Find the missing terms in each of the following geometric sequences

0	1	2	3	4	5
2	8	32	128	512	2048

×r ×4 ×r ×4

$2(r)(r) = 32$

$\frac{2r^2}{2} = \frac{32}{2}$

$r^2 = 16$

$r = 4$

$16^{1/2}$

Find the missing terms in each of the following geometric sequences

0	1	2	3	4	5
3	6	12	24	48	96

$3(r)(r)(r) = 24$

$\frac{3r^3}{3} = \frac{24}{3}$

$r^3 = 8$

$r = 2$

$8^{1/3}$

Find the missing terms in each of the following geometric sequences

0	1	2	3	4	5
80	40	20	10	5	2.5

$r = \frac{1}{2}$

$\frac{80r^4}{80} = \frac{5}{80}$

$r^4 = \frac{1}{16}$

$r = \left(\frac{1}{16}\right)^{1/4}$

Find the missing terms in each of the following geometric sequences

0	1	2	3	4	5
2	8	32	128	512	2048

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Complete the table and then write the function/explicit rule and the recursive rule

8.

Term	1st	2nd	3rd	4th	5th	6th	7th	8th
Value	2	4	8	16	32			

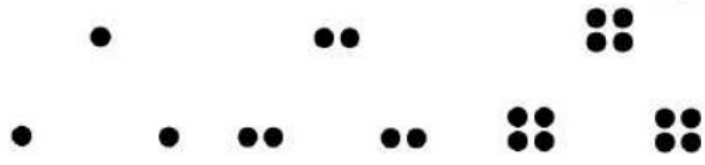
10.

Term	1st	2nd	3rd	4th	5th	6th	7th	8th
Value	-3	9	-27	81				

11.

Term	1st	2nd	3rd	4th	5th	6th	7th	8th
Value	160	80	40	20				

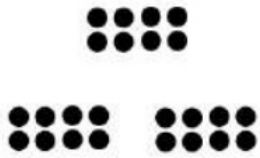
Use the dots below to answer the questions that follow.



At the beginning

At one minute

At two minutes



At three minutes

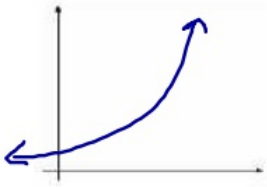
At four minutes

1. Describe and label the pattern of change you see in the above sequence of figures.
2. Assuming the sequence continues in the same way, how many dots are there at 5 minutes?
3. Write a recursive formula to describe how many dots there will be after t minutes.
4. Write an explicit formula to describe how many dots there will be after t minutes.

Topic: Recursive and explicit functions of geometric sequences

Below you are given various types of information. Write the recursive and explicit functions for each geometric sequence. Finally, graph each sequence, making sure you clearly label your axes.

11. 2, 4, 8, 16, ...



Recursive: _____

Explicit: _____

12.

Time (days)	Number of cells
1	3
2	6
3	12
4	24

Recursive: _____

Explicit: _____

13. Claire has $300 in an account. She decides she is going to take out half of what's left in there at the end of each month.

Recursive: _____

Explicit: _____

14. Tania creates a chain letter and sends it to four friends. Each day each friend is then instructed to send it to four friends and so forth.

Recursive: _____

Explicit: _____

15.

Recursive: _____

Explicit: _____