

NAME: \_\_\_\_\_

1. Which is the 7th term of this sequence?  
2, -10, 50, -250, ...

[A] 156,250            [B] -31,250  
[C] 31,250            [D] -156,250

2. Find the 6th term of the geometric sequence  
for which  $a_1 = -7$  and  $r = -\frac{1}{3}$ .

[A]  $-\frac{7}{729}$             [B]  $\frac{7}{243}$   
[C] -9                [D]  $-\frac{28}{3}$

3. Find the 4th term of the geometric sequence  
for which  $a_1 = -8$  and  $r = -\frac{1}{2}$ .

[A]  $-\frac{1}{2}$     [B]  $-\frac{21}{2}$     [C] 1    [D] -10

4. Find the 4th term of the geometric sequence  
for which  $a_1 = 7$  and  $r = -\frac{1}{5}$ .

[A]  $-\frac{7}{125}$     [B] 6    [C]  $\frac{31}{5}$     [D]  $\frac{7}{625}$

5. A series of jars containing marbles has the following pattern:

Jar #1 2 green, 1 red, 3 yellow  
Jar #2 4 green, 1 red, 6 yellow  
Jar #3 8 green, 1 red, 9 yellow  
Jar #5 32 green, 1 red, 15 yellow

How many marbles would be in Jar #4?

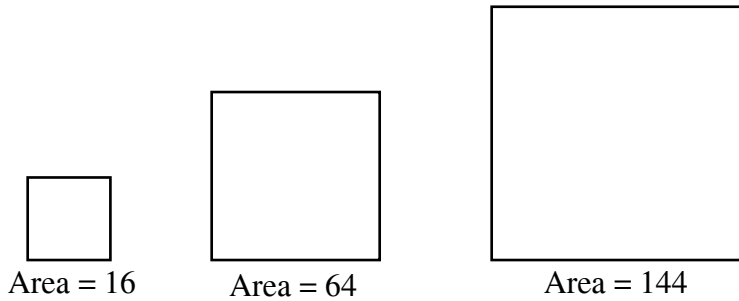
[A] 16    [B] 25    [C] 29    [D] 33

6. Suppose you record the number of claps of thunder during a thunderstorm. The table below shows the pattern of claps over time. If the pattern continues, how many total claps will occur in 32 seconds?

Seconds	Total Claps
1	2
2	3
4	4
8	5

NAME: \_\_\_\_\_

7. What is the perimeter of the fifth square in this pattern? [A] 256 [B] 80 [C] 400 [D] 60



8. What is the seventh term of this sequence?  $a_1 = 3$ ,  $a_n = a_{n-1} + 6$   
[A] 9                      [B] 27                      [C] 60                      [D] 39                      [E] 37

9. Compare the quantity in Column A with the quantity in Column B.

<u>Column A</u>	<u>Column B</u>
10	$a_3$ , when $a_1 = 3$ , $a_n = 2a_{n-1} - 5$

- [A] The quantity in Column A is greater.                      [B] The quantity in Column B is greater.  
[C] The two quantities are equal.  
[D] The relationship cannot be determined on the basis of the information supplied.

10. Which of the following could *not* be a term in this sequence?  $a_n = 2^n - 1$

- [A] 1                      [B] 31                      [C] 127                      [D] 63                      [E] 512

- [1] C
- [2] B
- [3] C
- [4] A
- [5] C
- [6] 7 claps

---
- [7] B
- [8] D
- [9] A
- [10] E