

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

*P.I. A2.A.32: Determine a specified term of an arithmetic or geometric sequence*

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 5th term of the geometric sequence

for which  $a_1 = 5$  and  $r = -\frac{1}{4}$ .

- [A]  $\frac{7}{2}$     [B]  $-\frac{5}{1024}$     [C]  $\frac{15}{4}$     [D]  $\frac{5}{256}$

5. Find the 7th term of the geometric sequence

for which  $a_1 = 6$  and  $r = -\frac{1}{2}$ .

- [A] 2    [B]  $\frac{5}{2}$     [C]  $-\frac{3}{64}$     [D]  $\frac{3}{32}$

6. Find the 5th term of the geometric sequence

for which  $a_1 = 9$  and  $r = -\frac{1}{4}$ .

- [A]  $\frac{15}{2}$                       [B]  $\frac{9}{256}$   
[C]  $-\frac{9}{1024}$                       [D]  $\frac{31}{4}$

7. 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]  $\frac{7}{625}$

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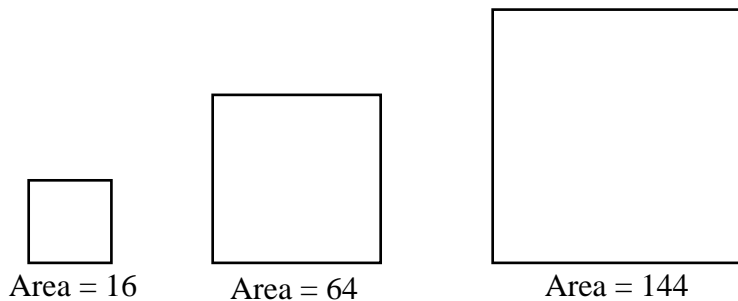
8. A series of jars containing marbles has the following pattern:

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

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



10. 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

- [1] C
- [2] B
- [3] C
- [4] D
- [5] D
- [6] B
- [7] A
- [8] C
- [9] B
- [10] 7 claps