

NAME: _____

1. Consider the sequence $\frac{2}{1}, \frac{3}{8}, \frac{4}{27}, \frac{5}{64}, \frac{6}{125}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 6th term.

[A] $\frac{5}{64}$ [B] $\frac{7}{216}$ [C] $\frac{4}{27}$ [D] $\frac{6}{125}$

2. Consider the sequence $\frac{2}{1}, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 12th term.

[A] $\frac{10}{9}$ [B] $\frac{11}{10}$ [C] $\frac{12}{11}$ [D] $\frac{13}{12}$

3. Consider the sequence $\frac{2}{1}, \frac{3}{4}, \frac{4}{9}, \frac{5}{16}, \frac{6}{25}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 9th term.

[A] $\frac{9}{64}$ [B] $\frac{11}{100}$ [C] $\frac{8}{49}$ [D] $\frac{10}{81}$

4. Consider the sequence $\frac{2}{1}, \frac{3}{8}, \frac{4}{27}, \frac{5}{64}, \frac{6}{125}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 7th term.

[A] $\frac{8}{343}$ [B] $\frac{5}{64}$ [C] $\frac{6}{125}$ [D] $\frac{7}{216}$

5. Consider the sequence $\frac{2}{1}, \frac{3}{4}, \frac{4}{9}, \frac{5}{16}, \frac{6}{25}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 11th term.

[A] $\frac{10}{81}$ [B] $\frac{12}{121}$ [C] $\frac{9}{64}$ [D] $\frac{11}{100}$

6. Consider the sequence $\frac{2}{1}, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}, \dots$. Assuming this pattern continues, determine what the n th term of the sequence is and use this to find the 8th term.

[A] $\frac{9}{8}$ [B] $\frac{10}{9}$ [C] $\frac{8}{7}$ [D] $\frac{7}{6}$

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7. Consider the sequence $\frac{2}{1}, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}, \dots$

Assuming this pattern continues, find the 8th term.

[A] $\frac{8}{7}$ [B] $\frac{9}{8}$ [C] $\frac{9}{6}$ [D] $\frac{8}{9}$

8. Consider the sequence

$\frac{2}{1}, \frac{3}{8}, \frac{4}{27}, \frac{5}{64}, \frac{6}{125}, \dots$ Assuming this pattern continues, find the 12th term.

[A] $\frac{13}{1000}$ [B] $\frac{13}{1728}$

[C] $\frac{12}{2197}$ [D] $\frac{12}{1331}$

9. Consider the sequence $\frac{2}{1}, \frac{3}{4}, \frac{4}{9}, \frac{5}{16}, \frac{6}{25}, \dots$

Assuming this pattern continues, find the 7th term.

[A] $\frac{8}{25}$ [B] $\frac{7}{64}$ [C] $\frac{7}{36}$ [D] $\frac{8}{49}$

10. Consider the sequence $\frac{2}{1}, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}, \dots$

Assuming this pattern continues, find the 9th term.

[A] $\frac{9}{6}$ [B] $\frac{9}{8}$ [C] $\frac{10}{7}$ [D] $\frac{10}{9}$

11. Consider the sequence

$\frac{2}{1}, \frac{3}{8}, \frac{4}{27}, \frac{5}{64}, \frac{6}{125}, \dots$ Assuming this pattern continues, find the 11th term.

[A] $\frac{11}{1000}$ [B] $\frac{11}{512}$

[C] $\frac{12}{729}$ [D] $\frac{12}{1331}$

12. Consider the sequence

$\frac{2}{1}, \frac{3}{8}, \frac{4}{27}, \frac{5}{64}, \frac{6}{125}, \dots$ Assuming this pattern continues, find the 10th term.

[A] $\frac{10}{1331}$ [B] $\frac{11}{512}$

[C] $\frac{11}{1000}$ [D] $\frac{10}{729}$

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