



Work every problem on the white boards in preparation for you quiz. You will be given 2 minutes for each problem before the answer is revealed.



1.) Write the sequence in recursive notation.

4, 8, 12, 16, 20, . . .



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4, 8, 12, 16, 20, . . .

Answer:

$$\begin{cases} a_1 = 4 \\ a_n = a_{n-1} + 4; n \geq 1 \end{cases}$$





2.) Write the sequence in explicit notation.

102, 97, 92, 87, 82, . . .



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102, 97, 92, 87, 82, . . .

Answer:

$$a_n = -5n + 107$$



3.) Write the sequence in explicit notation.

1, 4, 9, 16, 25, 36, 49, . . .



3.) Write the sequence in explicit notation.

1, 4, 9, 16, 25, 36, 49, . . .

Answer:

$$a_n = n^2$$



4.) Write the sequence in explicit notation.

$$\frac{1}{2}, \frac{4}{5}, 1, \frac{8}{7}, \frac{5}{4}, \frac{4}{3}, \dots$$



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$$\frac{1}{2}, \frac{4}{5}, 1, \frac{8}{7}, \frac{5}{4}, \frac{4}{3}, \dots$$

Answer:

$$a_n = \frac{2n}{n+3}$$



5.) Write the sequence in recursive notation.

$$10000, 1000, 100, 10, 1, 1/10, \dots$$



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$$10000, 1000, 100, 10, 1, 1/10, \dots$$

Answer:

$$\begin{cases} a_1 = 10,000 \\ a_n = \frac{1}{10} a_{n-1}; n \geq 1 \end{cases}$$



6.) For the sequence below, find a_{17} .

-9, -1, 7, 15, ...



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-9, -1, 7, 15, ...

Answer:

119



7.) Find the third term in the arithmetic sequence whose common difference is 6 and $a_{38} = 218$.



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Answer:

8



8.) Write the arithmetic sequence in recursive notation whose common difference is 2 and and seventeenth term is 50.



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Answer:

$$\begin{cases} a_1 = 18 \\ a_n = a_{n-1} + 2; n \geq 1 \end{cases}$$



9.) Write the arithmetic sequence in explicit notation where $b_8 = 83$ and $b_{25} = 236$.



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Answer:

$$b_n = 9n + 11$$



10.) Write the sequence in recursive notation.

$$0, \frac{1}{7}, \frac{2}{7}, \frac{3}{7}, \frac{4}{7}, \dots$$



10.) Write the sequence in recursive notation.

$$0, \frac{1}{7}, \frac{2}{7}, \frac{3}{7}, \frac{4}{7}, \dots$$

Answer:

$$\begin{cases} a_1 = 0 \\ a_n = a_{n-1} + \frac{1}{7}; n \geq 1 \end{cases}$$



11.) Write the sequence in recursive notation.

$$1, \frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \dots$$



11.) Write the sequence in recursive notation.

$$1, \frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \dots$$

Answer:

$$\begin{cases} a_1 = 1 \\ a_n = \frac{2}{3}a_{n-1}; n \geq 1 \end{cases}$$