Name: .... Class: ....

Complete a geometric number sequence

Complete the following geometric sequence.

a. 3, 9, 27, 81, 243, _____

b. 10, 100, _____, 10,000, 100,000

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Complete the following geometric sequence.

a. 3, 9, 27, 81, 243, _____

Find the common ratio of all the terms

First term = 3

Common ratio (r) = t_2/t_1

t_2/t_1	t_3/t_2	t_4/t_3	t_5/t_4
$\dfrac{9}{3} = \dfrac{3 \times 3}{1 \times 3}$	$\dfrac{27}{9} = \dfrac{3 \times 9}{1 \times 9}$	$\dfrac{81}{27} = \dfrac{3 \times 27}{1 \times 27}$	$\dfrac{243}{81} = \dfrac{3 \times 81}{1 \times 81}$
= 3	= 3	= 3	= 3

Since the common ratio of all the terms is 3, it shows that each number is 3 times the previouse number

So, multiply 243 by 3 to find the missing number

243 x 3 = 729

Therefore, the missing term is 729

b. 10, 100, _____, 10,000, 100,000

Find the common ratio of all the terms

First term = 10

Common ratio (r) = t_2/t_1

t_2/t_1	t_3/t_2	t_4/t_3	t_5/t_4
$\dfrac{100}{10} = \dfrac{10 \times 10}{1 \times 10}$	$\dfrac{?}{100}$	$\dfrac{10,000}{?}$	$\dfrac{100,000}{10,000} = \dfrac{10 \times 10,000}{10,000}$
= 10	= ?	= ?	= 10

Since the common ratio of all the terms is 10, it shows that each number is 10 times the previouse number

So, multiply 100 by 10 to find the missing number

100 x 10 = 1,000

Therefore, the missing term is 1,000