



CHEMISTRY ONLINE
— **TUITION** —

Phone: +442081445350

www.chemistryonlinetuition.com

Email: asherrana@chemistryonlinetuition.com

PURE MATH

ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	GEOMETRIC SERIES
PAPER TYPE:	SOLUTION - 2
TOTAL QUESTIONS	8
TOTAL MARKS	34

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Q.1

To find the sum (S) of the geommetric series, use the formula:

$$S = \frac{a - (-0.5^n)}{1 - (1 - 0.5)}$$

This formula will give you the sum for a specific number of terms (n) if you want the sum for an infinite geometric series, let me know, and I can provide that as will.

Q.2

we can use the formula for the sum of a geometric series

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case, a = 3 and r = 2 Now, let's find the sum:

$$S = \frac{3(1 - r^n)}{1 - 2}$$

Since r = 2 the series continues to double with each term, if you want the sum for a specific number of terms (n), you can substitute that value into the formula

If you want the sum for an infinite geometric series, where n goes to infinity ($n \rightarrow \infty$).

We can simplify the formula further.

$$S = \frac{3(1 - 2^n)}{1 - 2}$$

Since r = 2 and the absolute value of the common ratio is greater than 1, as n approaches infinity, $(1 - 2^n)$ will become very large in magnitude, and the series will diverge. Therefore, the sum for an infinite geometric series with r = 2 does not exist.

I am Sorry !!!!!

Q.3

To determine the sum (S) of the geometric series, use the formula:

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case $a = 2$ and $r = 3$. The formula becomes:

$$S = \frac{2(1 - 3^n)}{1 - 3}$$

This formula will give you the sum for a specific number of terms (n) if you want the sum for an infinite geometric series, let me know, and I can provide that as well.

Q.4

To find the sum (S) of the geometric series, use the formula:

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case, $a = 4$ and $r = -\frac{1}{2}$. The formula becomes:

$$S = \frac{4(-(-\frac{1}{2})^n)}{1 - (-\frac{1}{2})}$$

This formula will give you the sum for a specific number of terms (n).

I am Sorry !!!!!

Q.5

To find the sum (S) of the geometric series, use the formula:

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case, $a = 7$ and $r = -\frac{1}{3}$. The formula becomes.

$$S = \frac{7(1 - \left(-\frac{1}{3}\right)^n)}{1 - \left(-\frac{1}{3}\right)}$$

This formula will give you the sum for a specific number of terms (n).

Q.6

To determine the sum (S) of the geometric series, use the formula.

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case $a = 1$ and $r = \frac{2}{3}$. The formula becomes

$$S = \frac{1 - \left(\frac{2}{3}\right)^n}{1 - \frac{2}{3}}$$

This formula will give you the sum for a specific number of terms (n).

I am Sorry !!!!!

Q.7

To find the sum (S) of the geometric series, use the formula:

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case a = -5 and r = -2. The formula becomes.

$$S = \frac{-5(1 - (-2)^n)}{1 - (-2)}$$

This formula will give you the sum for a specific number of terms (n).

Q.8

To find the sum (S) of the geometric series, use the formula:

$$S = \frac{a(1 - r^n)}{1 - r}$$

In this case a = 6 and $r = \frac{1}{2}$. The formula becomes:

$$S = \frac{6(1 - (\frac{1}{2})^n)}{1 - \frac{1}{2}}$$

This formula will give you the sum for a specific number of terms (n).

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I am Sorry !!!!!



DR. ASHAR RANA



- Founder & CEO of Chemistry Online Tuition Ltd.
- Tutoring students in UK and worldwide since 2008
- CIE & EDEXCEL Examiner since 2015
- Chemistry, Physics, and Math's Tutor

CONTACT INFORMATION FOR CHEMISTRY ONLINE TUITION

- UK Contact: 02081445350
 - International Phone/WhatsApp: 00442081445350
 - Website: www.chemistryonlinetuition.com
 - Email: asherrana@chemistryonlinetuition.com
- Address: 210-Old Brompton Road, London SW5 OBS, UK