

Name : _____

Evaluate: Infinite Geometric Series

T1S1

The first term and the common ratio of the geometric series are given. Determine if the geometric series converges or diverges. If it converges, find its sum.

1) $a = 5 ; r = 0.8$

2) $a = 7 ; r = \frac{1}{3}$

3) $a = \frac{1}{2} ; r = \frac{5}{4}$

5) $a = -\frac{4}{5} ; r = -\frac{1}{2}$

7) $a = 0.9 ; r = 0.4$

8) $a = -5 ; r = 0.6$

PREVIEW

Gain complete access to the largest collection of worksheets in all subjects!

Members, please log in to download this worksheet.

Not a member? Please sign up to gain complete access.

www.mathworksheets4kids.com

Evaluate: Infinite Geometric Series

The first term and the common ratio of the geometric series are given. Determine if the geometric series converges or diverges. If it converges, find its sum.

1) $a = 5; r = 0.8$

2) $a = 7; r = \frac{1}{3}$

Since $|r| < 1$, series converges**Since $|r| < 1$, series converges****25** **$\frac{21}{2}$ or $10\frac{1}{2}$**

3) $a = \frac{1}{2}; r = \frac{5}{4}$

PREVIEW $\frac{1}{2}$ **Since $|r| \geq 1$** **No**

Gain complete access to the largest collection of worksheets in all subjects!

 $|r| < 1$, series converges **$4(2 + \sqrt{2})$**

5) $a = -\frac{4}{5}; r = -\frac{1}{5}$

Members, please log in to download this worksheet.

Not a member? Please sign up to gain complete access.

Since $|r| < 1$, **$|r| \geq 1$, series diverges****No sum**www.mathworksheets4kids.com

7) $a = 0.9; r = 0.4$

8) $a = -5; r = 0.6$

Since $|r| < 1$, series converges**1.5****Since $|r| < 1$, series converges****-12.5**