

Name : _____

Evaluate: Infinite Geometric Series

T2S1

Determine if the geometric series converges or diverges. If it converges, find its sum.

1) $1 + 0.6 + 0.36 + 0.216 + \dots$

2) $-5 - 25 - 125 - 625 - 3125 - \dots$

3) $-2 - 1.6 - 1.28$

PREVIEW

$$\frac{21}{100} + \frac{147}{1000} + \dots$$

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5) $\sqrt{5} + 0.2\sqrt{5} + \dots$

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$$+ 0.048 + 0.0192 + \dots$$

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7) $4 - 9.6 + 23.04 - 55.296 + 132.7104 - \dots$

8) $\frac{4}{5} + \frac{2}{5} + \frac{1}{5} + \frac{1}{10} + \frac{1}{20} + \dots$

Evaluate: Infinite Geometric Series

Determine if the geometric series converges or diverges. If it converges, find its sum.

1) $1 + 0.6 + 0.36 + 0.216 + \dots$

2) $-5 - 25 - 125 - 625 - 3125 - \dots$

Since $|r| < 1$, series converges

$S = 2.5$

Since $|r| \geq 1$, series diverges**No sum**

3) $-2 - 1.6 - 1.28$

PREVIEW

$\frac{21}{100} + \frac{147}{1000} + \dots$

**Since $|r| < 1$,
 $S =$** Gain complete access to the largest
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 $= \frac{10}{7}$ or $1\frac{3}{7}$**

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7) $4 - 9.6 + 23.04 - 55.296 + 132.7104 - \dots$

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Since $|r| \geq 1$, series diverges**No sum****Since $|r| < 1$, series converges**

$S = \frac{8}{5}$ or $1\frac{3}{5}$