

Infinite Series with Sigma Notation Practice

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Evaluate each infinite geometric series described.

1)
$$\sum_{i=1}^{\infty} \frac{1}{2} \cdot \left(-\frac{1}{2}\right)^{i-1}$$

2)
$$\sum_{n=1}^{\infty} 128 \cdot \left(\frac{1}{2}\right)^{n-1}$$

3)
$$\sum_{k=1}^{\infty} -2 \cdot \left(-\frac{1}{2}\right)^{k-1}$$

4)
$$\sum_{m=1}^{\infty} \frac{7}{4} \cdot \left(-\frac{1}{2}\right)^{m-1}$$

5)
$$\sum_{k=1}^{\infty} -12 \cdot \left(-\frac{1}{2}\right)^{k-1}$$

6)
$$\sum_{m=1}^{\infty} 2 \cdot (-2)^{m-1}$$

7)
$$\sum_{m=1}^{\infty} 2 \cdot 2^{m-1}$$

8)
$$\sum_{k=1}^{\infty} 2.9 \cdot 0.2^{k-1}$$

9)
$$\sum_{n=1}^{\infty} -2 \cdot \left(\frac{3}{2}\right)^{n-1}$$

10)
$$\sum_{i=1}^{\infty} \frac{5}{3} \cdot \left(\frac{1}{4}\right)^{i-1}$$

11)
$$\sum_{n=1}^{\infty} -4 \cdot \left(-\frac{1}{4}\right)^{n-1}$$

12)
$$\sum_{i=1}^{\infty} 3.9 \cdot 0.9^{i-1}$$

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Evaluate each infinite geometric series described.

$$1) \sum_{i=1}^{\infty} \frac{1}{2} \cdot \left(-\frac{1}{2}\right)^{i-1}$$

$$\frac{1}{3}$$

$$2) \sum_{n=1}^{\infty} 128 \cdot \left(\frac{1}{2}\right)^{n-1}$$

$$256$$

$$3) \sum_{k=1}^{\infty} -2 \cdot \left(-\frac{1}{2}\right)^{k-1}$$

$$-\frac{4}{3}$$

$$4) \sum_{m=1}^{\infty} \frac{7}{4} \cdot \left(-\frac{1}{2}\right)^{m-1}$$

$$\frac{7}{6}$$

$$5) \sum_{k=1}^{\infty} -12 \cdot \left(-\frac{1}{2}\right)^{k-1}$$

$$-8$$

$$6) \sum_{m=1}^{\infty} 2 \cdot (-2)^{m-1}$$

$$\text{No sum}$$

$$7) \sum_{m=1}^{\infty} 2 \cdot 2^{m-1}$$

$$\text{No sum}$$

$$8) \sum_{k=1}^{\infty} 2.9 \cdot 0.2^{k-1}$$

$$3.625$$

$$9) \sum_{n=1}^{\infty} -2 \cdot \left(\frac{3}{2}\right)^{n-1}$$

$$\text{No sum}$$

$$10) \sum_{i=1}^{\infty} \frac{5}{3} \cdot \left(\frac{1}{4}\right)^{i-1}$$

$$\frac{20}{9}$$

$$11) \sum_{n=1}^{\infty} -4 \cdot \left(-\frac{1}{4}\right)^{n-1}$$

$$-\frac{16}{5}$$

$$12) \sum_{i=1}^{\infty} 3.9 \cdot 0.9^{i-1}$$

$$39$$