Name : _____

Evaluate: Infinite Geometric Series

Mixed: S1

Evaluate each infinite geometric series.

1) $a = 5.5 ; r = 0.6$

2) $3 + 9 + 27 + 81 + \ldots$

3) $\sum_{k=1}^{\infty} (4 \cdot 0.75^{k})$

$25 + 12.5 + \ldots$

5) $a = 12 ; r = 8$

$-\frac{64}{625} + \frac{128}{3125} + \ldots$

7) $\sqrt{6} + 0.2\sqrt{6} + 0.04\sqrt{6} + 0.008\sqrt{6} + \ldots$

8) $\sum_{c=1}^{\infty} \left(\frac{6}{5} \cdot 0.9^{c+1}\right)$

Name : _____ **Answer key**

Evaluate: Infinite Geometric Series

Mixed: S1

Evaluate each infinite geometric series.

1) $a = 5.5 ; r = 0.6$

13.75

2) $3 + 9 + 27 + 81 + \ldots$

No sum

3) $\sum_{k=1}^{\infty} (4 \cdot 0.75^{k}$

16

$25 + 12.5 + \ldots$

00

5) $a = 12 ; r = 8$

No sum

$- \frac{64}{625} + \frac{128}{3125} + \ldots$

r $1\frac{1}{15}$

7) $\sqrt{6} + 0.2\sqrt{6} + 0.04\sqrt{6} + 0.008\sqrt{6} + \ldots$

$\frac{\sqrt{6}}{0.8}$

8) $\sum_{c=1}^{\infty} \left(\frac{6}{5} \cdot 0.9^{c+1}\right)$

9.72