

11.4

NAME _____

DATE _____

Practice Worksheet

Infinite Geometric Series

Find the sum of each infinite geometric series, if it exists.

1. $a_1 = 35, r = \frac{2}{7}$

2. $18 - 6 + 2 - \dots$

3. $\frac{4}{25} + \frac{2}{5} + 1 + \dots$

4. $6 + 4 + \frac{8}{3} + \dots$

5. $10 + 1 + 0.1 + \dots$

6. $2 + 6 + 18 + \dots$

7. $a_1 = 26, r = \frac{1}{2}$

8. $a_1 = 108, r = -\frac{3}{4}$

9. $a_1 = 42, r = \frac{6}{5}$

10. $a_1 = 50, r = \frac{2}{5}$

~~Express each decimal as an infinite geometric series. Then find the ratio it represents.~~

~~11. $0.\overline{40}$~~

~~12. $0.\overline{164}$~~

~~13. $0.\overline{28}$~~

~~14. $0.\overline{641}$~~

Find the first three terms of each infinite geometric series.

15. $S = 64, r = -\frac{3}{4}$

16. $S = 625, r = \frac{1}{5}$

17. $S = 90, r = -\frac{1}{2}$

18. $S = 4, r = \frac{1}{3}$