

TIPC Review 9.4 + 9.5

- For 1-6 a) Determine if sequence is arithmetic, geometric, or ^{neither}
 b) If arithmetic or geometric, find both a recursive AND explicit formulas. If neither, write either formula
 c) Find next 3 terms
 d) Find a_{12} .

1. 7, 13, 19, 25, ... 2. 1, 1, 2, 3, 5, ... 3. 500, 100, 20, 4, ...
 4. 56, 39, 22, 5, ... 5. 2, 4, 8, 16, ... 6. 3, 3.6, 4.32, 5.184, ...

7. After one month at a new job, you've saved \$50. You decide to save \$5 more than the previous month.

- a) Write an explicit formula to model the amounts you save each month.
 b) How much will you save in month 6?

Find the missing term if the sequence is a) arithmetic
 8. 4, ?, 12 9. 2, ?, $\frac{1}{2}$ 10. -12, ?, -2 b) geometric

Find the sum of each series, if possible. If it's not possible, explain why.

11. $\sum_{n=1}^{\infty} \frac{1}{2} \left(\frac{1}{10}\right)^{n-1}$ 12. $\sum_{n=1}^{\infty} 3n+2$ 13. $1 - \frac{1}{2} + \frac{1}{4} - \dots$ 14. $6 + 5 + \frac{25}{6} + \dots$

Determine if the series is arithmetic or geometric. Then evaluate the series for the specified number of terms.

15. $2 + 7 + 12 + \dots$ 16. $5000 + 1000 + 200 + \dots$ 17. $1 + .01 + .98 + \dots$
 for $n=8$ for $n=15$ for $n=5$