*Please write out solutions in full on a separate piece of paper.*

1. Given the arithmetic sequence 32, 38, 44, ..., determine:
   1.  b.  c. 
2. How many terms are in the following arithmetic sequences?
   1. 29, 22, 15,...., -55 b. 3.2, 4.7, 6.2, ..., 34.7 c. -12x - 10, -9x - 8, -6x – 6, ... , 57x + 36
3. In the following arithmetic sequences, determine which term the bold number is in the sequence:
   1. 31, 22, 13,..., **-356** b. 43, 55, 67, ..., **463** c. 4, ... -73, **-80**, -87, ...
4. Insert two numbers between 5 and 44 so the four numbers form an arithmetic sequence.
5. Insert 3 numbers between 99 and 167 so the five numbers form an arithmetic sequence.
6. Copy and complete the arithmetic sequences: a. 3,\_\_\_,\_\_\_,\_\_\_,23 b. 3,\_\_\_,\_\_\_,\_\_\_,303
7. Write the formula for the general term of a sequence: a. 1, 3, 5, … b. 11, 9, 7, …
8. A car salesperson receives a base salary of $275 per week, plus $250 for every car sold. What is the weekly salary if:
   1. 6 cars are sold. b. 14 cars are sold.
9. Determine the sum of the first 10 terms of each arithmetic series:
   1. 1 + 2 + 3 + … b. 6 + 12 + 18 + … c. -10 – 25 – 40 – ...
10. Determine the sum of each of the following arithmetic series:
    1. 6 + 10 + 14 + ... + 50 b. 1 + 2 +3 + ... + 999 c. 3 + 5.5 + 8 + ... + 133
11. If a = -5, tn = 22, and Sn = 85, determine n.
12. A pile of bricks is arranged in rows. The number of bricks in the rows forms an arithmetic sequence. There are 35 bricks in the 4th row and 20 bricks in the 9th row. Assuming there are 9 rows:
    1. How many bricks are there in the first row? b. How many bricks are there in the pile?
13. Determine the indicated term of each geometric sequence:
    1. 2, 6, 18, …, **t9**b. 16, -8, 4, …, **t11** c. -64, 48, -36, …, **tn**
14. In a geometric sequence, the 2nd term is 6 and the 5th term is 384. Determine the value of the first term.
15. A population grows by 3% a year. If the current population is 1,000,000, what will the population be in 5 years?
16. A battery loses 5% of its charge a day. If the battery is fully charged today, how much charge will be left in 8 days?
17. For the following geometric series, find the indicated sum:
    1. 120 + 60 + 30 +... **S10** b. 5 – 12.5 + 31.25 - ...**S15** c. 10, 50, 250,...**Sn**
18. The sum of the geometric series 1 – 3 + 9 ... is --182. How many terms are in the series? (Hint: Change powers so both sides of the equation have the same base)
19. Determine the infinite sum of each of the following geometric series:
    1. 81 + 27 + 9 + ... b. 140 + 35 + 8.75 + ... c. 50 – 25 + 12.5 - ...
20. If =90 and a = 54, determine the value of r.
21. A ball is dropped from a height of 4.0 m to a floor. After each bounce, the ball rises to 55% of its previous height.
    1. What is the total vertical distance the ball has travelled after it hits the ground on the 6th bounce?
    2. What is the total vertical distance the ball travels before it comes to rest?

Please complete the following sentences:

1. After completing this review package I feel I need to work on:
2. In order to improve in the areas I have highlighted I plan to: