Sequences & Series Homework #2

Directions: Factor each of the polynomials completely.

1. $2w^2-7w+5$

2. $3r^2+9r+6$

Directions: Determine what type of sequence each is (arithmetic, geometric, or neither) and write an explicit formula for each sequence (if possible).

1. -4, -7, -10, -13, …

2. 1, -½, ¼, -1/8, …

This sequence is _____

because _____

_____.

This sequence is _____

because _____

_____.

Directions: Use sigma notation to rewrite each finite series and calculate the given series.

1. 4+8+12+16+20; S_3

3. -1+1+(-1)+1+(-1)+1; S_6

2. 3+(-2)+1+(-4)+(-1); S_5

4. 3+5+7+9+11; S_4

Directions: Use Gauss' formula to calculate the sum of the first 12 terms of the arithmetic sequence.

1. -1, -2, -3, …

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

Directions: Use Euclid's formula to compute the sum of the first 15 terms of the geometric sequences.

1. 2, 6, 18, 54, 162, …

2. 1, -4, 16, -64, 256, …