Homework Questions 7 – Sigma Notation

1. Rewrite the following sums using the sigma notation

   a) $2 + 8 + 14 + 20 + \ldots + 74$

   $$\sum_{r=1}^{r=13} 6r - 4$$

   b) $96 + 89 + 82 + 75 + \ldots + 19$

   $$\sum_{r=1}^{r=12} -7r + 103$$

   c) Multiples of 4 less than 50

   $$\sum_{r=1}^{r=12} 4r$$

   d) $8 + 12 + 16 + 20 + 24$

   $$\sum_{r=1}^{r=5} 4r + 4$$

2, Calculate the following

   a)
   $$\sum_{r=1}^{r=7} r^2$$

   140

   b)
   $$\sum_{r=1}^{r=5} 2r + 1$$

   35

   c)
   $$\sum_{r=1}^{r=10} r^2 - 3$$

   355

   h)
   $$\sum_{r=1}^{r=4} (r-6)^2$$

   54

3. For what values of n does $\sum_{r=1}^{n} (n^2 + 5)$ first exceed 500?

   n=11

4. For what value of n would $\sum_{r=1}^{n} (25 - 6r) = 7$

   n=7