Math 2312: **Pre-Calculus** ***Homework*** ***Sec* 5.5 & 6**

Professor: Fred Khoury

Calculate the sum of

1. $\sum_{k=0}^{19} \frac{k-3}{4}$

2. $\sum_{k=2}^{50} (2{,}000 - 3k)$

3. $\sum_{k=20}^{50} 8$

4. $\sum_{n=1}^{\infty} 5\left(\frac{1}{2}\right)^{n-1}$

5. $\sum_{n=1}^{\infty} 5\left(\frac{3}{2}\right)^{n-1}$

6. Find the fraction notation for $0.78787878\cdots$ *or* $0.\overline{78}$

Find the specified term of the arithmetic sequence that that has 2 given term

7. a_{20}; $a_2 = 8$, $a_7 = -7$

8. a_{15}; $a_3 = 13$, $a_8 = 33$

Find the specified term of the geometric sequence that that has 2 given terms

9. a_9; $a_2 = 4$, $a_5 = 32$

10. a_9; $a_2 = 2\sqrt{3}$, $a_5 = 18$