MATH 115 **Name:** _____

In class work 14, Fall 2022 **Row and Seat**: _____

In class work 14 has questions 1 through 2 with a total of 10 points. Turn in your work at the end of class *on paper*. This assignment is due *Tuesday 22 November 13:15* P M.

5 1. Let n be a positive integer. Find a simple formula for the value of the sum

$$\sum_{k=0}^{n-1}\left(7+\frac{3}{n}k\right).$$

Among other facts, use identities

$$\sum_{k=0}^{n-1} 1 = n,$$
$$\sum_{k=0}^{n-1} k = \frac{(n-1)\,n}{2}.$$

5 2. Use the result of the first question to find the numerical value of

$$\lim_{n\to\infty} \frac{1}{n} \sum_{k=0}^{n-1} \left(7 + \frac{3}{n}k\right).$$