Math 210 - Dr. Miller - **OPTIONAL** Weekly Assessment #12, Spring 2024 - **Due by 12:30pm, Thursday, May 2**

IF you choose to complete this assignment, you can give it to me in person at your Final Exam, put it in my physical mailbox, or scan and upload it to a special D2L DropBox. Do **NOT** email it to me, as my InBox tends to blow up during Finals Week, and I don't want anything to get lost. If you do not choose to complete it, D2L will show a 0, but that can't hurt you so long as you are already content with your BEST 8 WAs for the semester.

As always, each WA is worth **10 points** total. Work right on these pages. You can work together or see a tutor, but NEVER copy. This WA is for a grade, so dishonesty or cutting corners may earn a 0 for all involved.

URLs listed below will also be posted on our course web page.

1. *[1.5 pts]* Clearly state what the concept of denseness means in the setting of fractions.

2. *[1.5 pts]* Illustrate correct mediant notation to demonstrate a fraction that is between $\frac{5}{6}$ and $\frac{50}{61}$.

3. *[1 pt]* Use your choice of meaningful technique to clearly demonstrate that your mediant above truly is larger than the smaller of $\frac{5}{6}$ and $\frac{50}{61}$.

4. *[2 pts]* Show clear, thorough steps in multiplying the fraction product below, including the intermediate step shown in the video at https://www.youtube.com/watch?v=qmfXyR7Z6Lk . Then reduce your answer to simplest form.

$$\frac{5}{6} \times \frac{7}{9} \times \frac{3}{10}$$

5. (a) *[1.5 pts]* Show clear, thorough steps in dividing $\frac{5}{6} \div \frac{7}{9}$. Imitate the steps shown in the video at https://www.youtube.com/watch?v=4lkq3DgvmJo .

   (b) *[0.5 pts]* What is the name of the rearranged fraction we use when trading fraction division for fraction multiplication?

6. *[2 pts]* Show clear, thorough steps in computing $\frac{5}{6} + \frac{7}{9} - \frac{1}{4}$. Refer to the processes shown in the videos below, but actually leave the intermediate FLF multiplication step showing, where the video "dissolves" a product such as 3×8 into the number 24. (That is, leave 3×8 in one step, and show 24 in the NEXT step.)
   https://www.youtube.com/watch?v=5juto2ze8Lg&list=PLUPEBWbAHUszeG-AhgtaRybo0ylguyk6_&index=3
   and
   https://www.youtube.com/watch?v=N-Y0Kvcnw8g&list=PLUPEBWbAHUszeG-AhgtaRybo0ylguyk6_&index=4
   . Then reduce your answer to simplest form.