

Name: \_\_\_\_\_

MATH 101

Fall 2023

HW 2: Due 09/13

*“Now we’re going to do the most human thing of all: attempt something futile with a ton of unearned confidence and fail spectacularly!”*

*–Michael, The Good Place*

**Problem 1.** (10pt) Showing all your work, reduce the following rational numbers:

(a)  $\frac{10}{140}$

(b)  $\frac{154}{33}$

(c)  $\frac{19}{17}$

(d)  $\frac{36}{18}$

(e)  $\frac{35}{45}$

**Problem 2.** (10pt) Showing all your work and simplifying as much as possible, compute the following:

(a)  $\frac{7}{2} - \frac{2}{5}$

(b)  $\frac{3}{4} + \frac{11}{12}$

(c)  $\frac{11}{25} + \frac{8}{20}$

(d)  $-\frac{6}{5} + \frac{7}{11}$

(e)  $\frac{1}{3} - \frac{5}{7} + \frac{13}{12}$

**Problem 3.** (10pt) Showing all your work and simplifying as much as possible, compute the following:

(a)  $\frac{\frac{5}{6}}{\frac{15}{12}}$

(b)  $\frac{\frac{11}{7}}{\frac{33}{35}}$

(c)  $\frac{\frac{3}{4}}{\frac{8}{9}}$

(d)  $\frac{\frac{25}{18}}{\frac{6}{15}}$

(e)  $\frac{\frac{5}{7}}{\frac{11}{13}}$

**Problem 4.** (10pt) Convert the following given mixed numbers to an improper fraction or convert the given improper fraction to a mixed number:

(a)  $\frac{\frac{5}{6}}{\frac{15}{12}}$

(b)  $\frac{\frac{11}{7}}{\frac{33}{35}}$

(c)  $\frac{\frac{3}{4}}{\frac{8}{9}}$

(d)  $\frac{\frac{25}{18}}{\frac{6}{15}}$

(e)  $\frac{\frac{5}{7}}{\frac{11}{13}}$