Name: _____

MATH 101
Spring 2024
HW 2: Due 01/29

"All opinions are not equal. Some are a very great deal more robust, sophisticated and well supported in logic and argument than others."
— Douglas Adams

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

(a) $\frac{36}{20}$

(b) $\frac{165}{44}$

(c) $\frac{23}{5}$

(d) $\frac{16}{80}$

(e) $\frac{70}{105}$

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

(a) $\frac{3}{7} + \frac{5}{2}$

(b) $\frac{11}{3} - \frac{5}{33}$

(c) $\frac{12}{25} + \frac{7}{10}$

(d) $\frac{18}{5} - \frac{10}{11}$

(e) $\frac{5}{3} + \frac{11}{2} - \frac{1}{7}$

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

(a) $\frac{6}{55} \cdot \frac{44}{21}$

(b) $\frac{\frac{49}{12}}{\frac{7}{20}}$

(c) $\frac{\frac{11}{5}}{\frac{3}{26}}$

(d) $\frac{30}{18} \cdot \frac{27}{70}$

(e) $\frac{\frac{180}{175}}{\frac{30}{98}}$

Problem 4. (10pts) Explain whether the following statements are true or false:

(a) All real numbers are rational.

(b) All rational numbers have a decimal expansion which terminates.

(c) There is only one way to express a rational number.

(d) All rational numbers are numbers between 0 and 1.