Name: _____

MATH 101
Spring 2022
HW 2: Due 02/10

Problem 1. (10pt) Represent each step in the following computation using fractions of a rectangle:

$$\frac{2}{3} - \frac{1}{2}$$

Problem 2. (10pt) Showing all your work, reduce the following rational numbers:

(a) $\dfrac{10}{14}$

(b) $\dfrac{18}{30}$

(c) $\dfrac{11}{17}$

(d) $\dfrac{36}{15}$

Problem 3. (10pt) Showing all your work and reducing as much as possible, perform the following computations:

(a) $\dfrac{2}{3} - \dfrac{5}{7}$

(b) $\dfrac{5}{6} + \dfrac{7}{2}$

(c) $\dfrac{3}{4} - \dfrac{11}{6}$

(d) $\dfrac{1}{2} - \dfrac{1}{3} + \dfrac{3}{4}$

Problem 4. (10pt) Showing all your work and reducing as much as possible, perform the following computations:

(a) $\dfrac{7}{6} \cdot \dfrac{12}{3}$

(b) $-\dfrac{3}{4} \cdot \dfrac{12}{27}$

(c) $\dfrac{6}{35} \cdot \dfrac{14}{15}$

(d) $-\dfrac{10}{7} \cdot -\dfrac{5}{3}$

Problem 5. (10pt) Showing all your work and reducing as much as possible, perform the following computations:

(a) $\dfrac{\frac{4}{5}}{\frac{2}{15}}$

(b) $\dfrac{\frac{3}{4}}{\frac{5}{2}}$

(c) $\dfrac{\frac{3}{7}}{\frac{5}{6}}$

(d) $\dfrac{\frac{14}{33}}{\frac{10}{21}}$

Problem 6. (10pt) Convert the following mixed fraction to an improper fraction:

$$3\frac{4}{7}$$

Problem 7. (10pt) Convert the following improper fraction to a mixed number:

$$\frac{27}{5}$$

Problem 8. (10pt) Showing all your work, represent the following fractions as a decimal:

(a) $\dfrac{5}{8}$

(b) $\dfrac{4}{11}$

Problem 9. (10pt) Convert the following decimal to a fraction—reducing as much as possible:

$$0.45$$

Problem 10. (10pt) Convert the following decimal to a fraction—reducing as much as possible:

$$0.636363\overline{63}$$