First name: _____ Last name: _____ Student ID: _____

Fractions 1 Homework

1. Multiply. Write the answer in simplest form. Show Work!

1. $10\frac{1}{2}\cdot\frac{4}{8}$	2. $9\frac{3}{9}\cdot 5\frac{9}{15}$	3. $10\frac{1}{4}\cdot 2\frac{10}{14}$
4. $6\frac{6}{12}\cdot\frac{3}{11}$	5. $\frac{5}{10}\cdot 12\frac{1}{3}$	6. $8\frac{9}{18}\cdot 11\frac{4}{13}$
7. $4\frac{2}{3}\cdot 3\frac{1}{9}$	8. $5\frac{12}{14}\cdot\frac{1}{2}$	9. $\frac{4}{5}\cdot 1\frac{7}{11}$

2. Divide. Write the answer in simplest form. Show Work!

1. $5\frac{7}{10}\div\frac{5}{6}$	2. $12\frac{6}{8}\div 4\frac{3}{4}$	3. $10\frac{11}{19}\div\frac{12}{13}$
4. $6\frac{16}{18}\div 7$	5. $1\frac{1}{2}\div\frac{3}{4}$	6. $3\frac{12}{16}\div 1$
7. $3\frac{2}{4}\div\frac{2}{3}$	8. $6\div\frac{1}{13}$	9. $8\frac{4}{5}\div 4\frac{1}{2}$

3. Add or subtract. Write the answer in simplest form. Show Work!

1. $1-\left(\frac{1}{2}-\frac{1}{4}\right)$	2. $1-\left(\frac{1}{2}-\left(\frac{1}{4}-\frac{1}{8}\right)\right)$	3. $\frac{7(-4)(2)}{-64\div(7-3)}$
4. $\left(\frac{3}{4}\right)\left(\frac{-2}{5}\right)\left(-\frac{7-2}{6}\right)\left(\frac{1-4}{-10}\right)$	5. $4-\left[\frac{3}{5}+(-0.2)\right]\div 1\frac{1}{3}$	6. $\left(\frac{-1}{2}+\frac{1}{3}\right)\div\left(\frac{2}{5}+\frac{1}{2}\right)$
7. $\left(-\frac{3}{4}-\frac{2}{3}\right)\div\frac{5}{6}+\frac{1}{-8}$	8. $1\div\left(\frac{1}{2}\div\left(3-\frac{3}{4}\right)\right)$	9. $1-2\frac{1}{2}\div\left(1-2\frac{1}{2}\right)$

Challenge Problems

1. Evaluate the product of the following fractions: $\frac{\frac{1}{2}-\frac{1}{3}}{\frac{1}{3}-\frac{1}{4}}\cdot\frac{\frac{1}{4}-\frac{1}{5}}{\frac{1}{5}-\frac{1}{6}}\cdot\frac{\frac{1}{6}-\frac{1}{7}}{\frac{1}{7}-\frac{1}{8}}\cdots\frac{\frac{1}{98}-\frac{1}{99}}{\frac{1}{99}-\frac{1}{100}}$.

2. You are told that certain unknown positive integers *p, q, r, s* satisfy $\frac{p}{q}=\frac{r}{s}$. Which of the following statements must be true?

(A) $\frac{p}{s}=\frac{r}{q}$ (B) $\frac{p}{r}=\frac{s}{q}$ (C) $\frac{p}{q}=\frac{p+r}{q+s}$ (D) $\frac{r}{s}$ doesn't equal $\frac{r-p}{s-q}$

(E) None of (A), (B), (C), (D)

3. In eight years, Monica will be 4/5 the age of her brother Mario. Four years ago, Monica was half as old as her brother. How old is Mario?

4. In the expression $\frac{1}{2}@\frac{1}{3}@\frac{1}{6}@\frac{1}{18}$, each @ can be replaced by either a + sign or a - sign. What value given below cannot be a result of this expression?

(A) -1/18 (B) 3/18 (C) 5/18 (D) 7/18 (E) 19/18

5. What is the value of $\dfrac{1+\frac{1}{2}+\frac{1}{3}}{1+\frac{1}{2}-\frac{1}{3}}$?

6. For a party, Justin buys a pizza and cuts it into 24 pieces. Marc eats $\frac{1}{6}$ of the pizza and Claudine eats $\frac{1}{4}$ of what remains. After both of them have eaten, Sylvie eats $\frac{1}{3}$ of the rest. Justin gets to eat what is left over. What fraction of the pizza did Justin not eat?

7. What is he value of $\dfrac{2^{2001}+2^{1999}}{2^{2000}-2^{1998}}$=?

8. If 12 is one-quarter of the number A, then what is three times A?

9. What is the value of $\dfrac{\frac{2}{3}-\frac{1}{2}}{\frac{2}{3}+\frac{1}{2}}$?

10. What is the value of $\dfrac{1}{1+\frac{1}{x}}$ when x =1/4?

11. Which of the following is the smallest?

A) $\dfrac{2}{1-\frac{1}{3}}$ B) $\dfrac{2}{1+\frac{1}{3}}$ C) $\dfrac{3}{1+\frac{1}{2}}$ D) $\dfrac{2}{1-\frac{1}{2}}$ E) $\dfrac{2}{\frac{1}{2}+\frac{1}{3}}$