

First name: _____ Last name: _____

Student ID: _____

Fractions Homework**1. Show steps and leave the answer in simplest form.**

a) $\frac{2}{9} \times 7\frac{1}{2}$	b) $9\frac{1}{5} \times \frac{5}{6}$	c) $8\frac{2}{3} \times 1\frac{1}{8}$
d) $\frac{3}{4} \times 2\frac{4}{7}$	e) $5\frac{5}{6} \times 3\frac{6}{9}$	f) $6\frac{2}{5} \times \frac{1}{2}$
g) $1\frac{1}{6} \div \frac{2}{3}$	h) $\frac{6}{8} \div 2\frac{3}{4}$	i) $4\frac{2}{7} \div 8$
j) $11 \div 6\frac{5}{6}$	k) $\frac{6}{125} \div 7\frac{4}{5}$	l) $2\frac{3}{9} \div \frac{2}{7}$

2. Show steps and leave the answer in simplest form.

a) $\left(-1\frac{1}{5}\right)\left(\frac{-2}{3}\right)\left(\frac{5}{12}\right)$	b) $\left(-\frac{1}{10}\right)\left(\frac{3}{-5}\right)\left(\frac{5}{9}\right)$	c) $\left(-1\frac{1}{5}\right)^2$
d) $\left(\frac{3}{-4} \times \frac{2}{9}\right)^2$	e) $\left(\frac{-2}{3}\right)^2 \left(\frac{1}{2}\right)^3$	f) $\left(-1\frac{1}{5}\right)\left(\frac{5}{12}\right)^2$
g) $3\frac{1}{10} - \left(\frac{3}{-100}\right) + 1$	h) $\frac{-5}{8} - \left(\frac{-1}{4}\right) + \left(-1\frac{1}{3}\right)$	i) $\frac{1}{2} \times \left(\frac{-3}{4}\right) + \frac{1}{3} \times \left(\frac{6}{-5}\right)$

Challenge problems:

1. There are 120 people staying at the STAR Hotel. The ratio of adults to children is 3:2. The ratio of females to males is 5:1 for adults and 1:1 for children. How many adult males are staying at the hotel?

2. Evaluate $\frac{(100-99)(100-98)\cdots(100-3)(100-2)(100-1)}{(1+2)(1+3)\cdots(1+98)(1+99)(1+100)}$

3. Solve for the variable. $\frac{2x-5}{2} + \frac{x+1}{4} = 10$

4. Calculate: $1 - \frac{1}{1 + \frac{1}{2 - \frac{1}{3}}}$

5. What is the value of n if $\frac{1}{2} + \frac{1}{3} + \frac{1}{n} = 1$?

6. How many integers n are there such that $\frac{5}{61} < \frac{1}{n} < \frac{13}{57}$?

7. What is the value of the expression $\frac{1}{1+\frac{1}{1+1}} + \frac{1}{2+\frac{3}{4+5}}$?

8. Evaluate the following expression.

$$\frac{\frac{1}{2} \times \frac{1}{3} \times \frac{6}{2} \times \frac{4}{3} \times \frac{2}{1} \times \frac{3}{2} \times \frac{4}{3} \times \frac{3}{4} \times \frac{4}{5} \times \frac{5}{6}}{\frac{2}{3} \times \frac{4}{6} \times \frac{6}{2} \times \frac{2}{3} \times \frac{3}{6} \times \frac{2}{3} \times \frac{4}{3}} + 1$$

9. A ball bounces $\frac{2}{3}$ of the distance through which it falls. If the second rebound is 72 cm, what was the height, in cm, through which the ball originally dropped?

10. In a class, $\frac{2}{5}$ of the boys and one third of the girls wear glasses. What is the fraction of the class wear glasses?

- (A) $\frac{3}{68}$ (B) $\frac{2}{15}$ (C) $\frac{11}{30}$ (D) $\frac{11}{15}$ (E) Not enough information