

Instructions: Show all work. Give exact answers (improper fractions) and do not round unless specifically asked to do so. If you work the problem in your calculator you can write keystrokes to show work for partial credit.

1. Simplify each expression.

a. $\frac{24}{-35} + -\frac{15}{49}$

c. $-\frac{15}{22} - -\frac{31}{48}$

b. $\left(-\frac{9}{7} \cdot \frac{23}{-27}\right) \cdot \left(-\frac{7}{9}\right)$

d. $-\frac{13}{24} \div -\frac{39}{48}$

2. Perform the following operations by hand.

a. $\frac{5}{12} + \frac{11}{14} =$

b. $\frac{9}{7} \cdot \frac{14}{27} \div \frac{10}{33} =$

3. Explain why division into zero (ex. $\frac{0}{3}$) is equal to zero, but division by zero (ex. $\frac{3}{0}$) is not defined.