| 1. Whole Number and Decimal Operation |  | 2. Decompose Fractions |
| :---: | :---: | :---: |
| Add decimal numbers <br> Multiply decimal | Subtract decimal numbers <br> Divide Decimal | IF the numerator and denominator: <br> a) Both are even, divide by 2 <br> b) Both end with 0 or 5 , divide by 5 <br> c) If not, then try 3 or 7 <br> Keep dividing by 1 of the 4 numbers until the fraction is in lowest terms. $\text { a) } \frac{18}{24} \div 2 \frac{9}{2} \div 3 \frac{3}{12} \div 3 \frac{3}{4}$ |
| Multiply normally, ignoring the decimal points. <br> Then put the decimal point in the answer - it will have as many decimal places as the two original numbers combined. $\begin{gathered} 0.67 \\ \times 0.4 \\ 0.268 \end{gathered}$ | Divide as usual <br> Put decimal point directly above decimal point in the dividend. $\begin{array}{r} 3.8 \\ 2 \longdiv { 7 ! 6 } \\ -64 \\ 16 \end{array}$ | $\begin{aligned} & \text { b) } \frac{45}{50} \div 5 \frac{5}{10} \\ & \text { c) } \frac{27}{45} \div 3 \frac{9}{15} \div 3 \sqrt[3]{3} \frac{3}{5} \end{aligned}$ |
| 3. Fractions Operation |  |  |
| Add Fractions <br> 1 Common Denominator? <br> 2 Add numerators <br> Improper? Change to mix number <br> 4 Reduce? <br> Add the whole number part of the answer to the mix number. | Subtract Fractions <br> 1 Common Denominator? <br> 2 Can you take away? If no, change 1 whole number to a fraction $1=\frac{2}{2}$ <br> 3 Subtract numerators <br> 4 Reduce? <br> Subtract whole number <br> $6 \frac{3}{4}-4 \frac{1}{2}$ <br> $6 \frac{3}{4} \quad 6 \frac{3}{4}$ <br> $\frac{-4 \frac{1}{2} \times \frac{2}{2} \quad 4 \frac{2}{4}}{2 \frac{1}{4}}$ $\begin{aligned} & 5 \frac{1}{2}-2 \frac{3}{5} \\ & { }^{4} \delta \frac{1}{2} \times \frac{5}{5}=\frac{5}{5}=\frac{5}{10}+\frac{10}{10}=\frac{15}{10} \\ & -2 \frac{3}{5} \times \frac{2}{2}=\frac{6}{10} \\ & 2 \end{aligned}$ | Divide Fractions <br> Strategy: multiply by reciprocal <br> 1. change division sign to multiplication sign <br> 2 invert (flip) the $2^{\text {nd }}$ number 3 multiply numerator by numerator and denominator by denominator $\begin{aligned} & \frac{1}{8} \div 2^{\sqrt{\text { Means } \frac{2}{1}}} \\ & \downarrow \downarrow \downarrow \\ & \frac{1}{8} \times \frac{1}{2}=\frac{1}{16} \end{aligned}$ |



