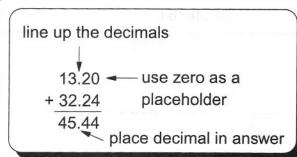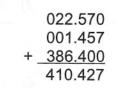# Unit 16   Adding, Subtracting, and Multiplying Decimals

1. **Addition:** Line up the decimal points and add. Place a decimal point in the answer below the decimal in the question. If necessary, use zeros as placeholders.

   A) 13.2 + 32.24

   line up the decimals

   $$13.\overset{\downarrow}{2}0 \longleftarrow \text{use zero as a}$$
   $$+\ 32.24 \qquad \text{placeholder}$$
   $$\overline{45.44}$$
   place decimal in answer

   B) 22.57 + 1.457 + 386.4

   $$022.570$$
   $$001.457$$
   $$+\ \underline{386.400}$$
   $$410.427$$

   Note: Zeros have been used as placeholders.

2. **Subtraction:** Line up the decimal points and subtract. Place a decimal point in the answer below the decimal in the question. If necessary, use zeros as placeholders.
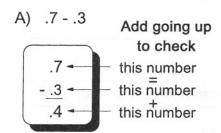
   A) .7 - .3
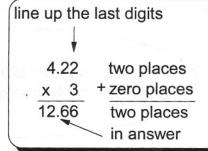
   Add going up to check

   .7 ← this number
   - .3 ← this number
   .4 ← this number

   B) 59.7 - 6.27

   $$59.70$$
   $$-\ \underline{06.27}$$
   $$53.43$$

   C) 386.4 - 6.457

   $$386.400$$
   $$-\ \underline{6.457}$$
   $$379.943$$

3. **Multiplication**

   A. Line up the numbers to be multiplied so that their last digits are in a vertical line.

   B. Multiply ignoring the decimal points.

   C. Count the total number of decimal places from the right in the numbers being multiplied. This will be the total decimal places in the answer.

   D. Begin to the right of the last digit in the answer. Count to the left the total places determined above. Place the decimal point in the answer.

   E. Having enough places may require placing zeros in the answer.

   Example: 4.22 x 3

   line up the last digits

   $$4.22 \qquad \text{two places}$$
   $$\underline{\times\ \ 3} \qquad +\ \text{zero places}$$
   $$12.66 \qquad \text{two places}$$
   in answer

   Example: .322 x .03

   line up the last digits

   $$.322 \qquad \text{three places}$$
   $$\underline{\times\ .03} \qquad +\ \text{two places}$$
   $$966 \qquad \text{five places in answer,}$$
   $$.00966 \qquad \text{must add 2 zeros}$$

48