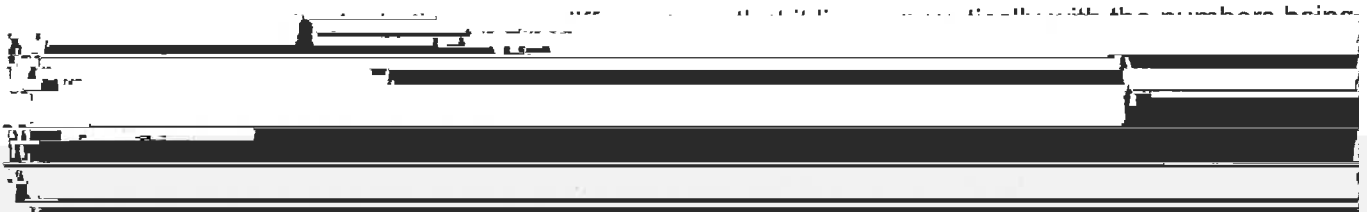


OPERATIONS WITH DECIMALS

To ADD OR SUBTRACT DECIMALS:

- 1) Line up the decimal points vertically. Fill in any 0's where necessary.
- 2) Add or subtract the numbers as if they were whole numbers.



$$\begin{array}{r} 0.560 \\ 9.000 \\ + 6.287 \\ \hline \end{array}$$

15.847 ← Place the decimal point in the sum so that it lines up vertically

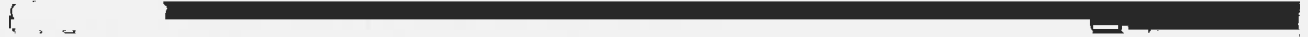
EXAMPLE 2: Subtract $6 - 1.859$

To subtract decimals, line up the decimal points vertically and add 0's where shown. Remember to borrow when necessary.

$$\begin{array}{r} 5 9 9 10 \\ \cancel{6} . \cancel{0} \cancel{0} \cancel{0} \\ - 1.859 \\ \hline 4.141 \end{array} \left. \vphantom{\begin{array}{r} 5 9 9 10 \\ \cancel{6} . \cancel{0} \cancel{0} \cancel{0} \\ - 1.859 \\ \hline 4.141 \end{array}} \right\} \text{Add to check!}$$

EXAMPLE 3: Subtract $3.742 - 10.638$

If the decimals have opposite signs, place the larger decimal on top, line up the decimal points,



$$\begin{array}{r} -10.638 \\ 3.742 \\ \hline -6.896 \end{array}$$

DIVIDING DECIMALS BY POWERS OF TEN:

- 1) If the power of ten is a whole number, such as 100 or 1000, move the decimal point as many places to the **left** as there are 0's in the power of 10.

To MULTIPLY DECIMALS:

- 1) Multiply the decimals as if the decimals were whole numbers.
- 2) To place the decimal point, count the number of decimal places in each factor.
- 3) The number of decimal places in the product is the sum of the number of decimal places in each factor.

EXAMPLE 4: Multiply 3.48×12.7

Multiply the decimals as if they were whole numbers. Then count the number of decimal places in each factor. Since the total number of decimal places in each factor is 3, the product must have 3



MULTIPLYING DECIMALS BY POWERS OF TEN:

- 1) If the power of ten is a whole number, such as 100 or 1000, move the decimal point as many places to the **right** as there are 0's in the power of 10.
- 2) If the power of ten is a decimal, such as 0.1 or 0.01, move the decimal point as many places to the **left** as there are decimal places in the power of 10

EXAMPLE 5: Multiply: a) 734.582×1000 ; and b) 734.582×0.01

- a) The power of 10 contains 3 zeros. To multiply 734.582 by 1000, move the decimal point 3 places to the right, as shown:

$$734.852 \times 1000 = 734.\underline{582} = 734,582$$

- b) The decimal power of 10 has two places. To multiply 734.582 by 0.01, move the decimal point two places to the left, as shown:

$$734.582 \times 0.01 = 7.\underline{34.582} = 7.34582$$

