

3.4 Multiplying Decimals

Objective: To multiply decimals



To Multiply Decimals

Step 1: Put the values in a vertical column.
(Do not line up the decimals)

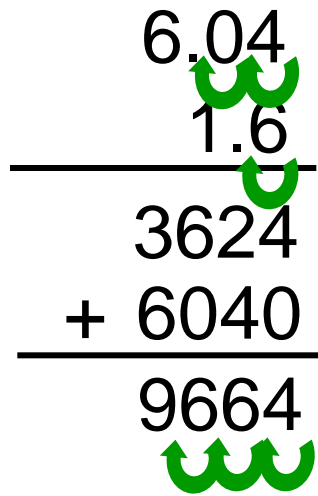
Step 2: Multiply as usual

Step 3: **Count** the total number of digits to the right of the decimals point

Step 4: Replace the decimal point in the answer

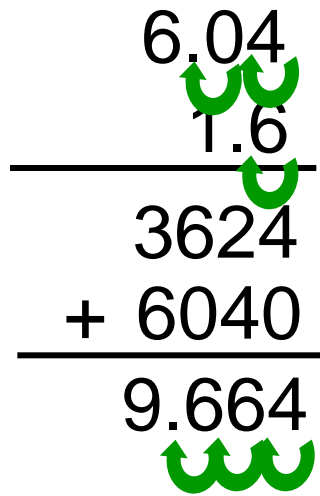
Examples

1) $6.04 \cdot 1.6$

$$\begin{array}{r} 6.04 \\ 1.6 \\ \hline 3624 \\ + 6040 \\ \hline 9664 \end{array}$$
The image shows a hand-drawn multiplication problem on a chalkboard. The numbers 6.04 and 1.6 are aligned at their decimal points. A horizontal line is drawn below 1.6. Below the line, the partial products 3624 and 6040 are written, with the second partial product shifted one place to the left. A final horizontal line is drawn below 6040, and the final product 9664 is written below it. Green arrows and brackets are drawn to highlight the alignment of digits: three arrows point from the decimal point of 6.04 down to the decimal point of 1.6, and three arrows point from the decimal point of 1.6 down to the decimal point of the final product 9664.

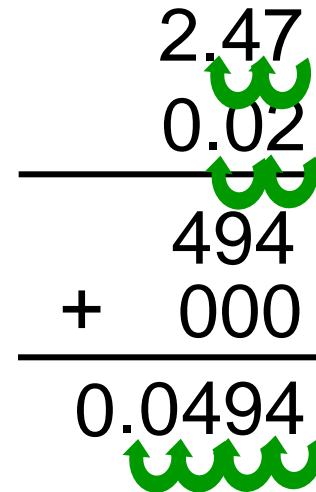
Examples

1) $6.04 \cdot 1.6$

$$\begin{array}{r} 6.04 \\ 1.6 \\ \hline 3624 \\ + 6040 \\ \hline 9.664 \end{array}$$


3 decimal places

2) $2.47 \cdot 0.02$

$$\begin{array}{r} 2.47 \\ 0.02 \\ \hline 494 \\ + 000 \\ \hline 0.0494 \end{array}$$


4 decimal places

Practice

$$3) 4.24 \cdot 3.76$$

$$15.9424$$

$$4) 13.01 \cdot 8.1$$

$$105.381$$

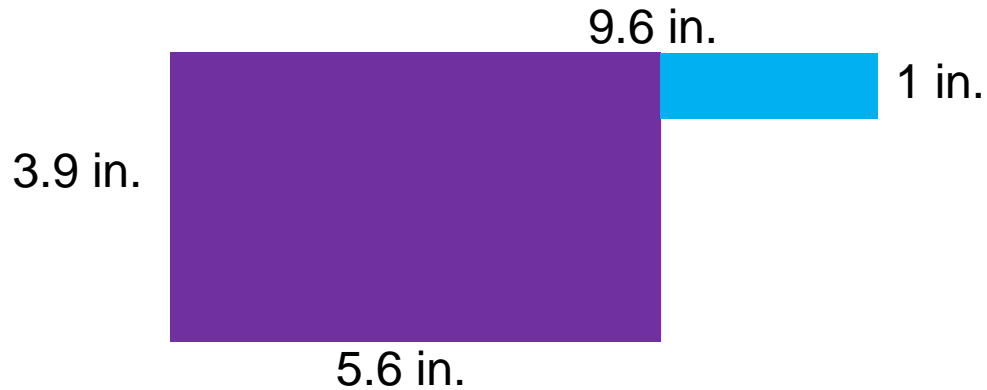
$$5) 7.4 \cdot 0.037$$

$$0.2738$$

$$6) 5 \cdot 2.9$$

$$14.5$$

Find the Area of the Figure



Find the area of each shape and add them together.

Purple

$$3.9 \text{ in} \cdot 5.6 \text{ in.}$$
$$21.84 \text{ in}^2$$

Blue

$$4 \text{ in} \cdot 1 \text{ in}$$
$$4 \text{ in}^2$$

$$21.84 \text{ in}^2 + 4 \text{ in}^2$$
$$25.84 \text{ in}^2$$

Distance Formula

$$d = r \cdot t$$

Distance (how far) rate (speed) time (how long)

Step 1: List the information you know

Step 2: Identify what you **want** to know

Step 3: Plug in the information into the formula

Examples

1) rate = 5.2 ft./sec.
time = 8.62 sec.
distance = ?

$$d = r \cdot t$$

$$d = 5.2 \cdot 8.62$$

$$\begin{array}{r} 5.2 \\ \times 8.62 \\ \hline 104 \\ 3120 \\ + 41600 \\ \hline 44.824 \text{ ft.} \end{array}$$

2) rate = 4.5 yards/sec.
time = 25.25 sec.
distance = ?

$$d = r \cdot t$$

$$d = 4.5 \cdot 25.25$$

$$\begin{array}{r} 4.5 \\ \times 25.25 \\ \hline 225 \\ 900 \\ 22500 \\ + 90000 \\ \hline 113.625 \text{ yards} \end{array}$$

Practice

You are traveling to Magic Mountain (from school) at an average speed of 40 miles/hour. It takes 1.25 hours to get there. What is the distance from Downey to Magic Mountain?

$$\text{rate} = 40 \text{ mph.}$$

$$\text{time} = 1.25 \text{ hours}$$

$$\text{distance} = ?$$

$$d = r \cdot t$$

$$d = 40 \cdot 1.25$$

$$\begin{array}{r} 40 \\ \times 1.25 \\ \hline 200 \\ 800 \\ 4000 \\ \hline 50.00 \text{ miles} \end{array}$$