

Multiplication: Cents and Decimals

When multiplying, using different units can aid in understanding how to multiply decimals and whole numbers. For example, if a donut costs 79 cents, how much would 6 donuts cost?

There are two ways of solving this problem. The first way would be to multiply 79 cents by 6, which would be written:

$$\begin{array}{r} 79\text{cents} \\ \times 6 \\ \hline 474\text{ cents} \end{array}$$

In the example above, we have learned that it would cost 474 cents to buy 6 donuts. This problem could also be solved by changing the 79cents into its dollar equivalent, which is \$.79. In other words, we could also write this problem as:

$$\begin{array}{r} \$.79 \\ \times 6 \\ \hline \$4.74 \end{array}$$

No matter which way the problem is written, the answer is the same. In our first example, the answer was 474 cents. 474 cents = \$4.74 because there are 100 cents in a dollar. It is important to note that in our second example, we had the same number of decimal places in the product (\$4.74) as we did in the decimal factor (\$.79). Whenever a decimal is multiplied by a whole number, the product will have the same number of decimal places as the decimal factor.

Let's look at another example. If a lollipop costs 15 cents, how much would 8 lollipops cost? Again, we can write this in two ways:

$$\begin{array}{r} 15\text{ cents} \\ \times 8 \\ \hline 120\text{ cents} \end{array} \qquad \begin{array}{r} \$.15 \\ \times 8 \\ \hline \$1.20 \end{array}$$

Again, our first example gives us the answer in cents. The second example gives us our answer in dollars and cents. No matter which method is used, the answer is the same because 120 cents is equal to \$1.20.

By practicing multiplication with cents and their dollar decimal equivalents, you can learn how important decimal points are in multiplication and how important it is to pay attention to the unit of measurement being used in a multiplication problem. Also, becoming familiar with the use and placement of decimals in multiplication will be helpful when it comes to using more advanced mathematics. There are times when you may be asked to multiply decimals that have three or four decimal places – or more.

Name _____

Date _____

Multiplication: Cents and Decimals Questions

Using both methods (cents and dollar decimal), write and solve for each of the following:

1. At the store, a sticker costs 5 cents. How much would 7 stickers cost?

2. A pack of baseball cards costs 99 cents. How much would 4 packs cost?

3. A gumball costs 25 cents. How much would 9 gumballs cost?

4. A pencil costs 12 cents. How much would 6 pencils cost?

5. A notebook costs 89 cents. How much would 5 notebooks cost?

6. At the store, a balloon costs 92 cents. How much would 8 balloons cost?

Name _____

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Multiplication: Cents and Decimals Answers

Using both methods (cents and dollar decimal), write and solve for each of the following:

1. At the store, a sticker costs 5 cents. How much would 7 stickers cost?

$$\begin{array}{r} 5 \text{ cents} \\ \times 7 \\ \hline 35 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.05 \\ \times 7 \\ \hline \$.35 \end{array}$$

2. A pack of baseball cards costs 99 cents. How much would 4 packs cost?

$$\begin{array}{r} 99 \text{ cents} \\ \times 4 \\ \hline 396 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.99 \\ \times 4 \\ \hline \$3.96 \end{array}$$

3. A gumball costs 25 cents. How much would 9 gumballs cost?

$$\begin{array}{r} 25 \text{ cents} \\ \times 9 \\ \hline 225 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.25 \\ \times 9 \\ \hline \$2.25 \end{array}$$

4. A pencil costs 12 cents. How much would 6 pencils cost?

$$\begin{array}{r} 12 \text{ cents} \\ \times 6 \\ \hline 72 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.12 \\ \times 6 \\ \hline \$.72 \end{array}$$

5. A notebook costs 89 cents. How much would 5 notebooks cost?

$$\begin{array}{r} 89 \text{ cents} \\ \times 5 \\ \hline 445 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.89 \\ \times 5 \\ \hline \$4.45 \end{array}$$

6. At the store, a balloon costs 92 cents. How much would 8 balloons cost?

$$\begin{array}{r} 92 \text{ cents} \\ \times 8 \\ \hline 736 \text{ cents} \end{array}$$

$$\begin{array}{r} \$.92 \\ \times 8 \\ \hline \$7.36 \end{array}$$