

1. Recursion

2. In this lesson, we give examples of an important mathematical technique. Recursion is the process of repeating a set of mathematical operations. Many ideas can be expressed in terms of a simple step-by-step process.
3. One example of a recursive process is a carpenter cutting planks in a staggered pattern to avoid a seam. The first board is cut to 16 inches. The next board is 16 inches longer. Each board is 16 inches longer than the previous board.
4. Another example is that of compounding interest. At age 30, you put \$10,000 into a retirement account. Each year, you earn 4% interest on your investment. Repeat this process for 25 years, and your investment will have grown to over \$26,000.
5. The recursive process can involve several steps. To pay off a car loan, you begin the month with a current balance. At the end of the month, interest is calculated and added to the amount you owe. You then make a payment, which is subtracted. This determines the new balance to start the next month. This process then repeats until the loan is paid off.
6. Typically, the numbers are given a symbol, like L for the length of a board or A for the accrual amount. The recursive definition states how to calculate the next value, based on the previous value.