All of the mathematical statements in this lesson are equations.

Recall that an equation is a statement of equality between two expressions.

Developing equations from written statements forms an important basis for problem solving and is one of the most vital parts of algebra.

Throughout this module, there will be work with written statements and symbolic language. We will work first with simple expressions, then with equations that gradually increase in complexity, and finally with systems of equations (more than one equation at a time).

We want to express the following statement using symbolic language:

A whole number has the property that when square of half the number is subtracted from five times the number, we get the number itself.

mult by itself

let x = a whole number

$$5x - (.5x)^2 = x$$

We want to express the following statement using symbolic language:

Paulo has a certain amount of money. If he spends $6.00, then he has 1/4 of the original amount left.

Let x = amount of money Paulo has

$$x - 6 = \frac{x}{4}$$

We want to express the following statement using symbolic language:

When a fraction of 57 is taken away from 57, what remains exceeds 2/3 of 57 by 4.

$\frac{2}{3}$ of $57 = \frac{2}{3} \cdot 57$

let x = a fraction of 57

$57 - x = \frac{2}{3} \cdot 57 + 4$

We want to express the following statement using symbolic language:

The sum of three consecutive integers is 372

let x = 1st integer

let $x+1$ = 2nd consecutive integer

let $x+1+1$ = 3rd consecutive integer

$$x+x+1+x+1+1=372$$

We want to express the following statement using symbolic language:

The sum of three consecutive odd integers is 93.