



## The Mangoes Problem Solution

Since the King removed  $(1/6)x$ , then  $x - (1/6)x$  mangoes are left after his removal. Thus,  $(5/6)x$  mangoes are left.

The Queen removed one-fifth of  $(5/6)x$ , so  $(5/6)x - (1/5)(5/6)x$ , or  $(4/6)x$ , mangoes are left after her removal.

The first Prince removed one-fourth of  $(4/6)x$  mangoes, so  $(4/6)x - (1/4)(4/6)x$ , or  $(3/6)x$ , mangoes are left after the first Prince's removal.

The second Prince removed one-third of  $(3/6)x$ , so  $(3/6)x - (1/3)(3/6)x$ , or  $(2/6)x$ , mangoes are left.

Finally, the third Prince removed one-half of  $(2/6)x$ , leaving 3 mangoes, so  $(2/6)x - (1/2)(2/6)x = 1/6x = 3$ . Solving  $1/6x = 3$  results in  $x = 18$ .