

**Answer on Question #45789 – Math – Calculus**

**Question.**  $f$  as a function of  $x$  is equal to  $\sqrt{6x+9}$ ,  $g$  as a function of  $x$  is equal to  $\sqrt{6x-9}$ . Find  $(f+g)(x)$ .

**Solution.** By definition  $f+g$  is the function defined via the following formula:

$$(f+g)(x) = f(x) + g(x)$$

for all  $x$  at which both functions are defined. Therefore

$$(f+g)(x) = f(x) + g(x) = \sqrt{6x+9} + \sqrt{6x-9}.$$

**Answer.**  $(f+g)(x) = \sqrt{6x+9} + \sqrt{6x-9}$ .