OPERAȚII CU FUNCȚII

Calculați $f+g$, $f-g$, $f-h$, $j-h$, $h+j$, $2h$, $h-5j$ în fiecare din cazurile următoare:

1) $f(x)=3x-1$, $g(x)=4x+2$,

$h(x)=\begin{cases}3x-2, & x<4\\ 2x+5, & x\geq 4\end{cases}$, $j(x)=\begin{cases}-2x+3, & x<8\\ x+5, & x\geq 8\end{cases}$

2) $f(x)=\begin{cases}-2x+1, & x<1\\ 3x+3, & x\geq 1\end{cases}$, $g(x)=\begin{cases}2x-1, & x<5\\ 4x+3, & x\geq 5\end{cases}$

$h(x)=5x-3$, $j(x)=-4x+8$

3) $f(x)=\begin{cases}5x+1, & x<8\\ 4x-3, & x\geq 8\end{cases}$, $g(x)=2x+3$,

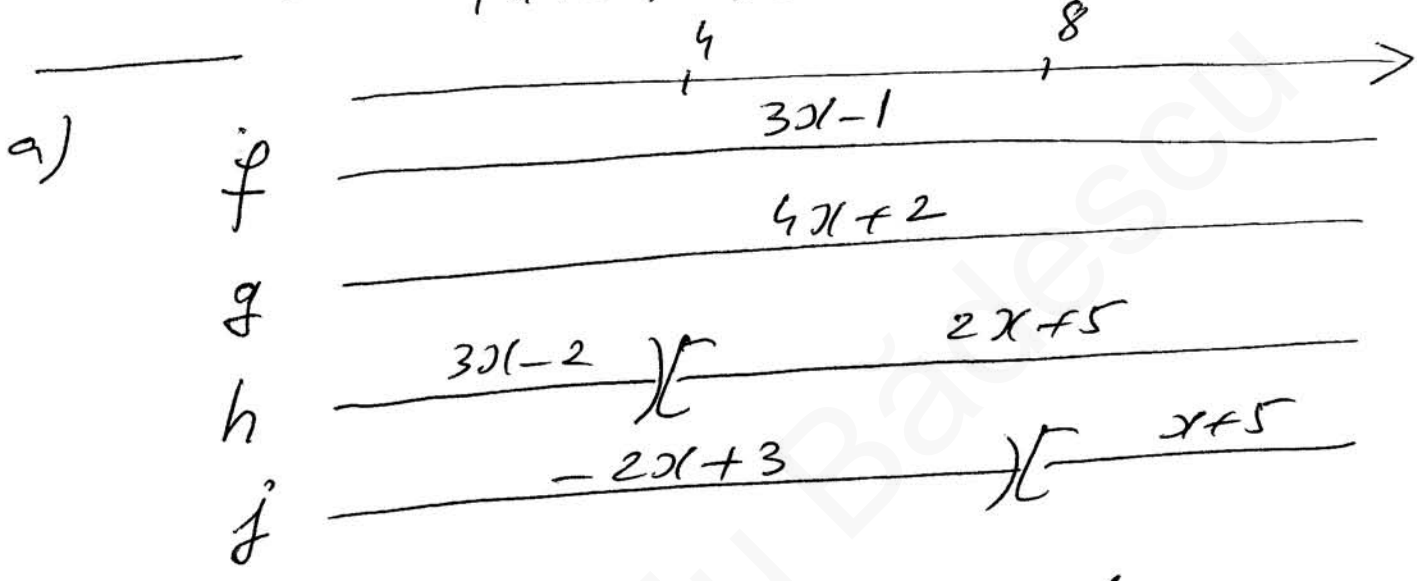
$h(x)=-4x+7$, $j(x)=\begin{cases}-2x+1, & x<3\\ 4x-5, & x\geq 3\end{cases}$

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Calculați $f+g$, $f-g$, $f-h$, $j-h$, $h+j$, $2h$, $h-5j$ pentru

$f(x)=3x-1$, $g(x)=4x+2$, $h(x)=\begin{cases}3x-2, & x<4\\ 2x+5, & x\geq 4\end{cases}$

și $j(x)=\begin{cases}-2x+3, & x<8\\ x+5, & x\geq 8\end{cases}$



a) $(f+g)(x)=(3x-1)+(4x+2)=7x+1$

b) $(f-g)(x)=(3x-1)-(4x+2)=-x-3$

c) $(j-h)(x)=\begin{cases}(-2x+3)-(3x-2), & x<4\\ (-2x+3)-(2x+5), & x\in[4;8)\\ (x+5)-(2x+5), & x\geq 8\end{cases}=\begin{cases}-5x+5, & x<4\\ -4x-2, & x\in[4;8)\\ -x, & x\geq 8\end{cases}$

d) $(h+j)(x)=\begin{cases}2(3x-2), & x<4\\ 2(2x+5), & x\geq 4\end{cases}=\begin{cases}6x-4, & x<4\\ 4x+10, & x\geq 4\end{cases}$

e) $2h(x)=\begin{cases}(3x-2)-5(-2x+3), & x<4\\ (2x+5)-5(-2x+3), & x\in[4;8)\\ (2x+5)-5(x+5), & x\geq 8\end{cases}=\begin{cases}13x-17, & x<4\\ 12x-10, & x\in[4;8)\\ -3x-20, & x\geq 8\end{cases}$

f) $(h-5j)(x)=\begin{cases}(3x-1)-(3x-2), & x<4\\ (2x-1)-(2x+5), & x\geq 4\end{cases}=\begin{cases}1, & x<4\\ x-6, & x\geq 4\end{cases}$

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