

Re: for all real x and y

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- *From:* "alainverghote@xxxxxxxx" <alainverghote@xxxxxxxx>
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On 27 jan, 18:37, tommy1729 <tommy1...@xxxxxxxx> wrote:

alain wrote:

On 27 jan, 00:24, tommy1729 <tommy1...@xxxxxxxx> wrote:

for all real x and y (and preferably complex too)

$$f1(x+y) =$$

$$f2(y)f3(x)f4(x)+f2(x)f3(y)f4(x)+f2(x)f3(x)f4(y) \\ + f2(x)f3(y)f4(y)+f2(y)f3(x)f4(y)+f2(y)f3(y)f4(x)$$

$$f2(x+y) =$$

$$f1(y)f3(x)f4(x)+f1(x)f3(y)f4(x)+f1(x)f3(x)f4(y) \\ + f1(x)f3(y)f4(y)+f1(y)f3(x)f4(y)+f1(y)f3(y)f4(x)$$

$$f3(x+y) =$$

$$f1(y)f2(x)f4(x)+f1(x)f2(y)f4(x)+f1(x)f2(x)f4(y) \\ + f1(x)f2(y)f4(y)+f1(y)f2(x)f4(y)+f1(y)f2(y)f4(x)$$

$$f4(x+y) =$$

$$f1(y)f2(x)f3(x)+f1(x)f2(y)f3(x)+f1(x)f2(x)f3(y)$$

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$$+ f_1(x)f_2(y)f_3(y)+f_1(y)f_2(x)f_3(y)+f_1(y)f_2(y)f_3(x)$$

with f_1 f_2 f_3 and f_4 distinct.

regards
tommy1729

Bonjour,

for $y = 0$, we've got :
 $f_1(0)+f_1(x) =$
 $(f_2(0)+f_2(x))*(f_3(0)+f_3(x))*(f_4(0)+f_4(x))$
 $+ f_1(0)$
 $+ f_1(0) -f_2(0)*f_3(0)*f_4(0) ,$
let us put $g_i(x)=f_i(0)+f_i(x)$ and $f_1(0)$
 $-f_2(0)*f_3(0)*f_4(0) = c_1$
... c_i ,

Alain

???

im not sure that is correct , since i see " minus f_2 " for example.

even if correct , what are you trying to tell me ?

thanks for your reply though.

regards
tommy1729– Masquer le texte des messages précédents –

– Afficher le texte des messages précédents –

Bonsoir,

for $y = 0$, put $g_i(x)=f_i(0)+f_i(x)$
 $c_1 = f_1(0)-f_2(0)*f_3(0)*f_4(0)$, $c_i = f_i(0) -...$

we'll have :

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$$g_1(x) = g_2(x) * g_3(x) * g_4(x) + c_1$$

$$g_2(x) = g_1(x) * g_3(x) * g_4(x) + c_2$$

$$g_3(x) = g_1(x) * g_2(x) * g_4(x) + c_3$$

$$g_4(x) = g_1(x) * g_2(x) * g_3(x) + c_4$$

$$\text{So } g_1(x)^2 - c_1 * g_1(x) = g_2(x)^2 - c_2 * g_2(x) = \dots$$

$$= g_1 * g_2(x) * g_3(x) * g_4(x), \text{ a common value}$$

Alain

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