IDENTITĂȚI TRIGONOMETRICE FOLOSIND FORMULE FUNDAMENTALE

Arătați că:

1) $\sin^4 x + \sin^2 x \cos^2 x + \cos^2 x = 1$

2) $\cos^4 x - \sin^4 x = \cos^2 x - \sin^2 x$

3) $\cos(x-y)\cos(x+y) = \cos^2 x - \sin^2 y$

4) $\sin(a+b)\cdot\sin(a-b) = \sin^2 a - \sin^2 b$

5) $\sqrt{\sin^4\alpha + 4\cos^2\alpha} + \sqrt{\cos^4\alpha + 4\sin^2\alpha} = 3$

6) $\sin 3x = 3\sin x - 4\sin^3 x$

7) $\cos 3x = 4\cos^3 x - 3\cos x$

8) $\operatorname{ctg}^2\alpha + \cos^2\alpha - \operatorname{ctg}^2\alpha\cos^2\alpha = 2\cos^2\alpha$

9) $\dfrac{\sin\alpha}{1+\operatorname{ctg}\alpha} + \dfrac{\cos\alpha}{1+\operatorname{tg}\alpha} = \dfrac{1}{\sin\alpha+\cos\alpha}$

10) $\operatorname{tg}\alpha - \operatorname{ctg}\alpha + \dfrac{1-\sin^2\alpha}{1-\cos^2\alpha} = \dfrac{1}{\sin^2\alpha}$

11) $\dfrac{\sin\alpha-\cos\alpha}{\sin\alpha+\cos\alpha} = \dfrac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}$

12) $\dfrac{1}{\cos^2 x - \sin^2 x} = \dfrac{1+\operatorname{tg}^2 x}{1-\operatorname{tg}^2 x}$

13) $\dfrac{\sin^2\alpha - \cos^2\alpha}{1+2\sin\alpha\cos\alpha} = \dfrac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}$

14) $\dfrac{\sin^2 x - \operatorname{tg}^2 x}{\cos^2 x - \operatorname{ctg}^2 x} = \operatorname{tg}^6 x$

15) $\dfrac{\sin\alpha+\operatorname{ctg}\alpha}{1+\sin\alpha\operatorname{tg}\alpha} = \operatorname{ctg}\alpha$

16) $\dfrac{1-\sin^4 x - \cos^4 x}{\cos^4 x} = 2\operatorname{tg}^2 x$

17) $\operatorname{ctg} 2x = \dfrac{\operatorname{ctg} x - \operatorname{tg} x}{2}$, $\forall x \in (0, \frac{\pi}{4})$

18) $\dfrac{\operatorname{ctg}\alpha}{\operatorname{tg}\alpha+\operatorname{ctg}\alpha} = \cos^2\alpha$

19) $\dfrac{\cos(a+b)}{\cos a\cos b} = 1 - \operatorname{tg} a\operatorname{tg} b$

20) $\operatorname{tg} x + \operatorname{ctg} x = 2$, x cere $\sin 2x = 1$

21) $\dfrac{\cos^2 x}{\operatorname{ctg}\frac{x}{2} - \operatorname{tg}\frac{x}{2}} = \dfrac{\sin 2x}{4}$

22) $\dfrac{\sin^3 x + \cos^3 x}{\sin x + \cos x} = 1 - \sin x\cos x$

23) $\dfrac{\sin^2 x - \operatorname{tg}^2 x}{\cos^2 x - \operatorname{ctg}^2 x} = \operatorname{tg}^6 x$

Ovidiu Băcescu

Arătați că:

$$\sin^4 x + \sin^2 x \cos^2 x + \cos^2 x = 1$$

$E_1)$ $\sin^4 x + \sin^2 x \cos^2 x + \cos^2 x =$

$= \sin^2 x (\underbrace{\sin^2 x + \cos^2 x}_{1}) + \cos^2 x =$

$= \sin^2 x + \cos^2 x = 1$

Prof. Ovidiu Bădescu

Se cere:

$$\cos^4 x - \sin^4 x = \cos^2 x - \sin^2 x$$

$$E_1)\ \cos^4 x - \sin^4 x = (\cos^2 x)^2 - (\sin^2 x)^2 =$$

$$= (\cos^2 x - \sin^2 x)(\underbrace{\cos^2 x + \sin^2 x}_{1}) =$$

$$= \cos^2 x - \sin^2 x$$

Prof. Ovidiu Bădescu

Arătați că:

$$\cos(x-y)\cos(x+y) = \cos^2 x - \sin^2 y$$

$E_1)$ $M_1 = \cos(x-y)\cos(x+y) =$

$= (\cos x \cos y + \sin x \sin y)(\cos x \cos y - \sin x \sin y) =$

$= \cos^2 x \cos^2 y - \sin^2 x \sin^2 y$

$E_2)$ trebuie doar o relație cu $\cos^2 x$ și $\sin^2 y$, deci înlocuim $\sin^2 x = 1 - \cos^2 x$ și

$\cos^2 y = 1 - \sin^2 y$

$E_3)$ $M_1 = \cos^2 x (1 - \sin^2 y) - (1 - \cos^2 x) \cdot \sin^2 y$

$= \cos^2 x - \cancel{\cos^2 x \sin^2 y} - \sin^2 y + \cancel{\cos^2 x \sin^2 y} =$

$= \cos^2 x - \sin^2 y$

Prof. Ovidiu Băcescu

Arătați că:

$\sin(a+b)\cdot\sin(a-b)=\sin^2 a-\sin^2 b$

$E_1)\ T_S=\sin(a+b)\cdot\sin(a-b)=$

$=(\sin a\cos b+\cos a\sin b)(\sin a\cos b-\cos a\sin b)=$

$=(\sin a\cos b)^2-(\cos a\sin b)^2=$

$=\sin^2 a\cdot\cos^2 b-\cos^2 a\cdot\sin^2 b$

$E_2)$ se cere doar o relație între $\sin a$ și $\sin b$, înlocuim $\cos^2 b=1-\sin^2 b$ și $\cos^2 a=1-\sin^2 a$

$E_3)\ T_S=\sin^2 a(1-\sin^2 b)-(1-\sin^2 a)\sin^2 b=$

$=\sin^2 a-\sin^2 a\sin^2 b-(\sin^2 b-\sin^2 a\sin^2 b)=$

$=\sin^2 a-\sin^2 b$

Prof. Ovidiu Bădescu

Arătați că:

$$\sqrt{\sin^4\alpha+4\cos^2\alpha}+\sqrt{\cos^4\alpha+4\sin^2\alpha}=3$$

E_1) deoarece $\cos^2\alpha=1-\sin^2\alpha$ și $\sin^2\alpha=1-\cos^2\alpha$

E_2) $M_1=\sqrt{\sin^4\alpha+4(1-\sin^2\alpha)}+\sqrt{\cos^4\alpha+4(1-\cos^2\alpha)}=$

$=\sqrt{\sin^4\alpha-4\sin^2\alpha+4}+\sqrt{\cos^4\alpha-4\cos^2\alpha+4}=$

$=\sqrt{(\sin^2\alpha-2)^2}+\sqrt{(\cos^2\alpha-2)^2}=$

$=|\sin^2\alpha-2|+|\cos^2\alpha-2|$

E_3) din cercul trigonometric $\Rightarrow \sin\alpha\in[-1;1]$ și $\cos\alpha\in[-1;1]\Rightarrow \sin^2\alpha-2\le 0$ și $\cos^2\alpha-2\le 0$

E_4) $M_1=-(\sin^2\alpha-2)-(\cos^2\alpha-2)=$

$=-\sin^2\alpha+2-\cos^2\alpha+2=$

$=4-(\sin^2\alpha+\cos^2\alpha)=4-1=3$

Prof. Ovidiu Badescu

Arătați că:

$$\sin 3x = 3\sin x - 4\sin^3 x$$

$E_1)$ $\sin 3x = \sin(2x + x) =$

$= \sin 2x \cos x + \cos 2x \sin x$

S-a folosit $\sin(a+b) = \sin a \cos b + \cos a \sin b$

$E_2)$ $\sin 2x = 2\sin x \cos x$

$\cos 2x = 1 - 2\sin^2 x$

$E_3)$ $\sin 3x = (2\sin x \cos x) \cdot \cos x + (1 - 2\sin^2 x)\sin x =$

$= 2\sin x \cdot \cos^2 x + \sin x - 2\sin^3 x$

$E_4)$ dar, $\sin^2 x + \cos^2 x = 1 \Rightarrow \cos^2 x = 1 - \sin^2 x$

$E_5)$ $\sin 3x = 2\sin x(1 - \sin^2 x) + \sin x - 2\sin^3 x =$

$= 2\sin x - 2\sin^3 x + \sin x - 2\sin^3 x =$

$= 3\sin x - 4\sin^3 x$

$\Rightarrow \boxed{\sin 3x = 3\sin x - 4\sin^3 x}$

Prof. Ovidiu Bădescu

Arătați că:

$$\cos 3x = 4\cos^3 x - 3\cos x$$

$E_1)\ \cos 3x = \cos(2x+x) = \cos 2x \cos x - \sin 2x \sin x$

$*\ \cos(a+b) = \cos a \cos b - \sin a \sin b$ *

$E_2)$ dar, $\cos 2x = 2\cos^2 x - 1$ și $\sin 2x = 2\sin x \cos x$

$E_3)\ \cos 3x = (2\cos^2 x - 1)\cos x - (2\sin x \cos x)\sin x =$

$= 2\cos^3 x - \cos x - 2\sin^2 x \cos x$

$E_4)$ dar, $\sin^2 x + \cos^2 x = 1 \Rightarrow \sin^2 x = 1 - \cos^2 x$

$E_5) \cos 3x = 2\cos^3 x - \cos x - 2(1-\cos^2 x)\cos x$

$\cos 3x = 2\cos^3 x - \cos x - 2\cos x + 2\cos^3 x$

$\Rightarrow \boxed{\cos 3x = 4\cos^3 x - 3\cos x}$

Prof. Ovidiu Bădescu

Arătați că:

$$ctg^2\alpha + \cos^2\alpha - ctg^2\alpha \cos^2\alpha = 2\cos^2\alpha$$

E_1) vrem arăta că: $ctg^2\alpha + \cos^2\alpha - ctg^2\alpha \cos^2\alpha - 2\cos^2\alpha = 0$

$\Leftrightarrow ctg^2\alpha - ctg^2\alpha \cos^2\alpha - \cos^2\alpha = 0$

E_2) $ctg^2\alpha(1 - \cos^2\alpha) - \cos^2\alpha = 0$

E_3) Dar $1 - \cos^2\alpha = \sin^2\alpha$

$\Rightarrow ctg^2\alpha \cdot \sin^2\alpha - \cos^2\alpha = 0$

$$\frac{\cos^2\alpha}{\sin^2\alpha} \cdot \sin^2\alpha - \cos^2\alpha = 0$$

$\cos^2\alpha - \cos^2\alpha = 0$ adev.

Prof. Ovidiu Bădescu

Arătați că:

$$\frac{\sin\alpha}{1+\operatorname{ctg}\alpha}+\frac{\cos\alpha}{1+\operatorname{tg}\alpha}=\frac{1}{\sin\alpha+\cos\alpha}$$

$E_1)\ M_S=\dfrac{\sin\alpha}{1+\dfrac{\cos\alpha}{\sin\alpha}}+\dfrac{\cos\alpha}{1+\dfrac{\sin\alpha}{\cos\alpha}}$

$$M_S=\frac{\sin\alpha}{\frac{\sin\alpha+\cos\alpha}{\sin\alpha}}+\frac{\cos\alpha}{\frac{\cos\alpha+\sin\alpha}{\cos\alpha}}$$

$E_2)\ M_S=\sin\alpha\cdot\dfrac{\sin\alpha}{\sin\alpha+\cos\alpha}+\cos\alpha\cdot\dfrac{\cos\alpha}{\sin\alpha+\cos\alpha}$

$$M_S=\frac{\sin^2\alpha+\cos^2\alpha}{\sin\alpha+\cos\alpha}=\frac{1}{\sin\alpha+\cos\alpha}$$

Prof. Ovidiu Bădescu

Arătați că:

$$\operatorname{tg}\alpha \cdot \operatorname{ctg}\alpha + \frac{1-\sin^2\alpha}{1-\cos^2\alpha} = \frac{1}{\sin^2\alpha}$$

E1) $M_S = \frac{\sin\alpha}{\cos\alpha} \cdot \frac{\cos\alpha}{\sin\alpha} + \frac{\cos^2\alpha}{\sin^2\alpha} =$

$= 1 + \frac{\cos^2\alpha}{\sin^2\alpha} = \frac{\sin^2\alpha + \cos^2\alpha}{\sin^2\alpha} = \frac{1}{\sin^2\alpha}$

Prof. Ovidiu Bădescu

Arătați că:

$$\frac{\sin\alpha-\cos\alpha}{\sin\alpha+\cos\alpha}=\frac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}$$

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met I

$$E_1)\ M_d=\frac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}=\frac{\frac{\sin\alpha}{\cos\alpha}-1}{\frac{\sin\alpha}{\cos\alpha}+1}=\frac{\frac{\sin\alpha-\cos\alpha}{\cos\alpha}}{\frac{\sin\alpha+\cos\alpha}{\cos\alpha}}=$$

$$=\frac{\sin\alpha-\cos\alpha}{\cos\alpha}\cdot\frac{\cos\alpha}{\sin\alpha+\cos\alpha}=\frac{\sin\alpha-\cos\alpha}{\sin\alpha+\cos\alpha}$$

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met II:

$$E_1)\ M_s=\frac{\sin\alpha-\cos\alpha}{\sin\alpha+\cos\alpha}\xrightarrow{|:\cos\alpha}\frac{\frac{\sin\alpha-\cos\alpha}{\cos\alpha}}{\frac{\sin\alpha+\cos\alpha}{\cos\alpha}}:$$

$$=\frac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}$$

Prof. Ovidiu Badescu

Arătați că:

$$\frac{1}{\cos^2 x - \sin^2 x} = \frac{1+\operatorname{tg}^2 x}{1-\operatorname{tg}^2 x}$$

$E_1)$ $\dfrac{1+\operatorname{tg}^2 x}{1-\operatorname{tg}^2 x} = \dfrac{\dfrac{\cos^2 x}{\cos^2 x} + \dfrac{\sin^2 x}{\cos^2 x}}{\dfrac{\cos^2 x}{\cos^2 x} - \dfrac{\sin^2 x}{\cos^2 x}} =$

$$= \frac{\dfrac{\cos^2 x + \sin^2 x}{\cos^2 x}}{\dfrac{\cos^2 x - \sin^2 x}{\cos^2 x}} =$$

$$= \frac{\cos^2 x + \sin^2 x}{\cos^2 x - \sin^2 x} = \frac{1}{\cos^2 x - \sin^2 x}$$

Prof. Ovidiu Bădescu

Arătați că:

$$\frac{\sin^2\alpha-\cos^2\alpha}{1+2\sin\alpha\cos\alpha}=\frac{\operatorname{tg}\alpha-1}{\operatorname{tg}\alpha+1}$$

$E_1)$ $\sin^2\alpha=1-\cos^2\alpha$, înlocuim

$$\Rightarrow \frac{1-\cos^2\alpha-\cos^2\alpha}{1+2\sin\alpha\cos\alpha}=\frac{\frac{\sin\alpha}{\cos\alpha}-1}{\frac{\sin\alpha}{\cos\alpha}+1}$$

$E_2)$ $\dfrac{1-2\cos^2\alpha}{1+2\sin\alpha\cos\alpha}=\dfrac{\frac{\sin\alpha-\cos\alpha}{\cos\alpha}}{\frac{\sin\alpha+\cos\alpha}{\cos\alpha}}$

$E_3)$ $(\sin\alpha+\cos\alpha)(1-2\cos^2\alpha)=(\sin\alpha-\cos\alpha)(1+2\sin\alpha\cos\alpha)$

$\Rightarrow \sin\alpha-2\sin\alpha\cos^2\alpha+\cos\alpha-2\cos^3\alpha=$

$=\sin\alpha+2\sin^2\alpha\cos\alpha-\cos\alpha-2\sin\alpha\cos^2\alpha$

$E_4)$ $-2\sin\alpha\cos^2\alpha+\cos\alpha-2\cos^3\alpha-2\sin^2\alpha\cos\alpha+$

$+\cos\alpha+2\sin\alpha\cos^2\alpha=0$

$2\cos\alpha-2\cos\alpha(\underbrace{\cos^2\alpha+\sin^2\alpha}_{1})=0$

$\Rightarrow 2\cos\alpha-2\cos\alpha=0$ adev.

Prof. Ovidiu Pârâescu

Arătați că

$$\frac{\sin^2 x - \operatorname{tg}^2 x}{\cos^2 x - \operatorname{ctg}^2 x} = \operatorname{tg}^6 x$$

E1) $M_S = \dfrac{\sin^2 x - \dfrac{\sin^2 x}{\cos^2 x}}{\cos^2 x - \dfrac{\cos^2 x}{\sin^2 x}} = \dfrac{\dfrac{\sin^2 x \cos^2 x - \sin^2 x}{\cos^2 x}}{\dfrac{\cos^2 x \sin^2 x - \cos^2 x}{\sin^2 x}} =$

$= \dfrac{\sin^2 x(\cos^2 x - 1)}{\cos^2 x} \cdot \dfrac{\sin^2 x}{\cos^2 x(\sin^2 x - 1)} =$

$= \dfrac{\sin^2 x \cdot (-\sin^2 x)\sin^2 x}{\cos^2 x \cdot \cos^2 x(-\cos^2 x)} = \left(\dfrac{\sin x}{\cos x}\right)^6 = \operatorname{tg}^6 x$

Prof. Ovidiu Bănescu

Arătați că:

$$\frac{1-\sin^4 x-\cos^4 x}{\cos^4 x}=2\operatorname{tg}^2 x$$

E_1) Relația de demonstrat e echivalentă cu

$1-\sin^4 x-\cos^4 x=2\operatorname{tg}^2 x\cdot\cos^4 x \Leftrightarrow$

$1-\sin^4 x-\cos^4 x=2\cdot\frac{\sin^2 x}{\cos^2 x}\cdot\cos^4 x \Leftrightarrow$

$\Leftrightarrow 1-\sin^4 x-\cos^4 x=2\sin^2 x\cos^2 x$

E_2) $\Leftrightarrow 1=\sin^4 x+\cos^4 x+2\sin^2 x\cos^2 x$

$\Leftrightarrow 1=(\sin^2 x+\cos^2 x)^2$

$1=1$ adev.

Prof. Ovidiu Badescu

Arătați că:

$$\frac{ctg\alpha}{tg\alpha + ctg\alpha} = \cos^2\alpha$$

E1) $T_S = \dfrac{\dfrac{\cos\alpha}{\sin\alpha}}{\dfrac{\sin\alpha}{\cos\alpha} + \dfrac{\cos\alpha}{\sin\alpha}} = \dfrac{\dfrac{\cos\alpha}{\sin\alpha}}{\dfrac{\sin^2\alpha + \cos^2\alpha}{\sin\alpha\cos\alpha}} =$

$= \dfrac{\cos\alpha}{\sin\alpha} \cdot \dfrac{\sin\alpha\cos\alpha}{1} = \cos^2\alpha$

Prof. Ovidiu Bădescu

Dacă $x \in \left(0, \frac{\pi}{4}\right)$, să se arate:

$$ctg\, 2x = \frac{ctg\, x - tg\, x}{2}$$

$E_1)\ M_S = ctg\, 2x = \dfrac{1}{tg\, 2x}$

$E_2)$ Dar, $tg\, 2x = \dfrac{2\, tg\, x}{1 - tg^2 x} \Rightarrow$

$$\Rightarrow ctg\, 2x = \frac{1}{\frac{2\, tg\, x}{1 - tg^2 x}} = \frac{1 - tg^2 x}{2\, tg\, x}$$

$$\Rightarrow M_S = \frac{1 - tg^2 x}{2\, tg\, x} \quad (1)$$

$E_3)\ M_d = \dfrac{ctg\, x - tg\, x}{2} = \dfrac{\frac{1}{tg\, x} - tg\, x}{2} =$ (amplificăm cu $tg\, x$)

$$= \frac{\frac{1 - tg^2 x}{tg\, x}}{2} = \frac{1 - tg^2 x}{2\, tg\, x} \quad (2)$$

$E_4)$ Din $(1) + (2) \Rightarrow ctg\, 2x = \dfrac{ctg\, x - tg\, x}{2}$

Prof. Ovidiu Badescu

Dacă $\operatorname{tg} x + \operatorname{ctg} x = 2$, să se arate că $\sin 2x = 1$

E1) $\operatorname{tg} x + \operatorname{ctg} x = 2 \Rightarrow \frac{\sin x}{\cos x} + \frac{\cos x}{\sin x} = 2$

$\Rightarrow \frac{\sin^2 x + \cos^2 x}{\sin x \cos x} = 2 \Rightarrow$

$\Rightarrow 1 = 2 \sin x \cos x \Rightarrow$

$\Rightarrow \sin 2x = 1$

Prof. Ovidiu Badescu

Arătați că:

$$\frac{\cos^2 x}{\operatorname{ctg}\frac{x}{2} - \operatorname{tg}\frac{x}{2}} = \frac{\sin 2x}{4}$$

$E_1)$ $$\frac{\cos^2 x}{\operatorname{ctg}\frac{x}{2} - \operatorname{tg}\frac{x}{2}} = \frac{\cos^2 x}{\frac{\cos\frac{x}{2}}{\sin\frac{x}{2}} - \frac{\sin\frac{x}{2}}{\cos\frac{x}{2}}} =$$

$$= \frac{\cos^2 x}{\frac{\cos^2\frac{x}{2} - \sin^2\frac{x}{2}}{\sin\frac{x}{2}\cos\frac{x}{2}}} = \frac{\cos^2 x}{\cos^2\frac{x}{2} - \sin^2\frac{x}{2}} \cdot \sin\frac{x}{2}\cos\frac{x}{2}$$

$E_2)$ Formula $\cos^2 a - \sin^2 a = \cos 2a$ și

$$\sin a \cdot \cos a = \frac{\sin 2a}{2}$$

$E_3)$ $(1) \Rightarrow \frac{\cos^2 x}{\cos\left(2 \cdot \frac{x}{2}\right)} \cdot \frac{\sin\left(2 \cdot \frac{x}{2}\right)}{2} =$

$$= \frac{\cos^2 x}{\cos x} \cdot \frac{\sin x}{2} = \frac{\cos x \sin x}{2} =$$

$$= \frac{\frac{\sin 2x}{2}}{2} = \frac{\sin 2x}{4}$$

Prof. Ovidiu Badescu

Arătați că:

$$\frac{\sin^2 x - \operatorname{tg}^2 x}{\cos^2 x - \operatorname{ctg}^2 x} = \operatorname{tg}^6 x$$

$E_1)$ $\dfrac{\sin^2 x - \dfrac{\sin^2 x}{\cos^2 x}}{\dfrac{\sin^2 x}{\cos^2 x} - \dfrac{\cos^2 x}{\sin^2 x}} = \dfrac{\sin^6 x}{\cos^6 x}$

$E_2)$ $\dfrac{\dfrac{\sin^2 x \cos^2 x - \sin^2 x}{\cos^2 x}}{\dfrac{\sin^2 x \cos^2 x - \cos^2 x}{\sin^2 x}} = \dfrac{\sin^6 x}{\cos^6 x}$

$E_3)$ $\dfrac{\sin^2 x(\cos^2 x - 1)}{\cos^2 x} \cdot \dfrac{\sin^2 x}{\cos^2 x(\sin^2 x - 1)} = \dfrac{\sin^6 x}{\cos^6 x}$

$E_4)$ Deci, $\sin^2 x + \cos^2 x = 1 \Rightarrow \cos^2 x - 1 = -\sin^2 x$

$\sin^2 x - 1 = -\cos^2 x$

$E_5)$ $\dfrac{\sin^4 x}{\cos^4 x} \cdot \dfrac{-\sin^2 x}{-\cos^2 x} = \dfrac{\sin^6 x}{\cos^6 x}$

oder.

Prof. Ovidiu Badescu

Arătați că:

$$\frac{\sin^3 x + \cos^3 x}{\sin x + \cos x} = 1 - \sin x \cos x$$

E1) Folosim $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$

E2) $\frac{\sin^3 x + \cos^3 x}{\sin x + \cos x} = \frac{(\sin x + \cos x)(\sin^2 x - \sin x \cos x + \cos^2 x)}{\sin x + \cos x} =$

$= \sin^2 x - \sin x \cos x + \cos^2 x =$

$= 1 - \sin x \cos x$

deoarece $\sin^2 x + \cos^2 x = 1$

Prof. Ovidiu Bădescu