(30) Racionalizar: $(x=5)$

$$E=\frac{x-5}{\sqrt{x-4}-\sqrt{3x-14}}\cdot\frac{F.R}{\sqrt{x-4}+\sqrt{3x-14}}$$

Sol

$$\frac{(x-5)\,F.R}{x-4-3x+14}$$

$$\frac{(x-5)\,F.R}{-2x+10}$$

$$\frac{(x-5)\,FR}{-2(x-5)}$$

$$\frac{\sqrt{x-4}+\sqrt{3x-14}}{-2}=\frac{2}{-2}$$

$(x=5)$

-1

(29) Denominador:

$$E=\frac{1}{\sqrt[3]{7}^{2}-\sqrt[3]{7}-6}$$

$$\frac{1}{a^2-1a-6}$$

$a \quad -3$

$a \quad +2$

$$\frac{1}{(a-3)(a+2)}$$

$$\frac{1}{(\sqrt[3]{7}-3)(\sqrt[3]{7}+2)}$$

$$\frac{1}{(\sqrt[3]{7}-\sqrt[3]{27})(\sqrt[3]{7}+\sqrt[3]{8})}$$

$$\frac{1}{(7-27)(7+8)}\quad FR_1\cdot FR_2$$

$$\frac{\quad\cdot FR_2}{(-20)(15)}$$

$$-FR_1\cdot FR_2$$

300

(28)

(28) Racionalizar; Señalar el Denominador:

$$\frac{1}{\sqrt[2]{2} - \sqrt[5]{5}}$$

$M(M(2-5) = 10$

$\times 5 \qquad \times 2$

$$\frac{1}{\sqrt[10]{2^5} - \sqrt[10]{5^2}}$$

PHR

$$\frac{1}{\sqrt[10]{32} - \sqrt[10]{25}} = \frac{1(FR)}{32-25}$$

$$\frac{}{7}$$

(27) Suma de Denominadores:

$$A = \frac{2}{\sqrt[3]{9}+2} = \frac{2}{\sqrt[3]{9}+\sqrt[3]{8}} = \frac{2(FR)}{9+8}$$

17

$$B = \frac{3}{\sqrt[3]{5}-\sqrt[3]{2}} = \frac{3(FR)}{5-2} = \frac{3FR}{3}$$

1

$$C = \frac{1}{\sqrt[2]{2}-1} = \frac{1}{\sqrt[2]{2}-\sqrt[2]{1}} = \frac{1FR}{2-1}$$

$1 + 1 + 1 \Rightarrow 19$

(26) Denominador: $(a+b)(a-b) = a^2 - b^2$

$$\frac{35}{\sqrt[24]{35} + \sqrt[24]{5}}$$

PAR

$$\frac{35.(FR)}{35-5}$$

$$\frac{35^{7}FR}{30}$$

6

(25) Factor Racionalizante:

$$\frac{a}{\sqrt[15]{x^1}+\sqrt[15]{y^1}}\cdot\frac{}{+\sqrt[15]{x^{14}}-\sqrt[15]{x^{13}}\sqrt[15]{y^1}+\sqrt[15]{x^{12}}\sqrt[15]{y^2}}$$

$a+b=(+)(+-+-+)$

(24) Factor Racionalizante:

$$\frac{12}{\sqrt[3]{7^1}+\sqrt[3]{2}}\cdot\frac{\neq R}{(\sqrt[3]{7^2}-\sqrt[3]{7^1}\sqrt[3]{2^1}+\sqrt[3]{2^2})}$$

$$\sqrt[3]{49}-\sqrt[3]{14}+\sqrt[3]{4}$$

(23) Racionalizar:

$a-b=(+++++)$

$(a-b)=(-)(++++)$

$$E=\frac{1}{(\sqrt{3}+\sqrt{2})+\sqrt{5}}\cdot\frac{(\sqrt{3}+\sqrt{2})-\sqrt{5}}{(\sqrt{3}+\sqrt{2})-\sqrt{5}}$$

$$\frac{\sqrt{3}+\sqrt{2}-\sqrt{5}}{(\sqrt{3}+\sqrt{2})^2-\sqrt{5}^2}$$

$$\frac{5+2\sqrt{6}-5}{\sqrt{3}+\sqrt{2}-\sqrt{5}}\cdot\frac{\sqrt{6}}{\sqrt{6}}$$

$$\frac{2\sqrt{6}}{\sqrt{18}+\sqrt{12}-\sqrt{30}}$$

(22) Si: $\sqrt{A\pm2\sqrt{B}}$ Hallar: $\sqrt{x}$

$$\frac{\sqrt{x+1}+2}{\sqrt{5+2\sqrt{6}}}$$

$3+2=5$, $3\cdot2=6$

$$\frac{\sqrt{x}+\sqrt{1}}{(\sqrt{3}+\sqrt{2})}$$

$\sqrt{x+1}=\sqrt{x}+1$

$\sqrt{x}=0$

$x=0$

$$\sqrt{x}=\sqrt{3}-\sqrt{2}$$

$=\sqrt{3}-\sqrt{2}$

$(\sqrt{3}+\sqrt{2})(\sqrt{3}-\sqrt{2})$

$=1$

(21) Efec

$S=$

$4($

Hallar: "x"

$= \sqrt{3} - \sqrt{2}$

$\sqrt{3} - \sqrt{2}$

$\sqrt{2})(\sqrt{3} - \sqrt{2})$

(21) Efectuar:

$$S = \frac{4}{\sqrt[2]{7} - \sqrt[2]{3}} + \frac{3}{\sqrt{10} + \sqrt{7}} + \frac{2}{2\sqrt{3} + \sqrt{10}}$$

$\sqrt{12} + \sqrt{10}$

$$\frac{4(\sqrt{7} + \sqrt{3})}{4} + \frac{3(\sqrt{10} - \sqrt{7})}{3} + \frac{2(2\sqrt{3} - \sqrt{10})}{2}$$

$$\sqrt{7} + \sqrt{3} + \sqrt{10} - \sqrt{7} + 2\sqrt{3} - \sqrt{10}$$

$3\sqrt{3}$

(20) Radicales Simples:

$\sqrt{21 - 4\sqrt{5} + 8\sqrt{3} - 4\sqrt{15}}$

$2.2\sqrt{5}$ $2.4\sqrt{3}$ $2.2\sqrt{15}$

$21 - 2\sqrt{20} + 2\sqrt{48} - 2\sqrt{60}$

$5+4+12$ $5\ 4$ $4\ 12$ 12.5

$\sqrt{4} + \sqrt{12} - \sqrt{5} \Rightarrow 2 + 2\sqrt{3} - \sqrt{5}$

4.3

(19)

$2+5+7$ $7\ 5$ $5\ 2$ $2\ 7$

$$\frac{2\sqrt{35} + 2\sqrt{10} + 2\sqrt{14}}{\sqrt{14 + \sqrt{140} + \sqrt{40} + \sqrt{56}}}$$

4.35 4.10 4.14

a) $\sqrt{3} + \sqrt{5} + \sqrt{7}$

b) $\sqrt{5} + \sqrt{7} + \sqrt{9}$

c) $3\sqrt{3} + 2\sqrt{5} + 4$

d) $\sqrt{7} + \sqrt{9} + \sqrt{11}$

$\sqrt{2} + \sqrt{5} + \sqrt{7}$

$\sqrt{7} + \sqrt{5} + \sqrt{9}$

$CS: \langle -8, -7] \cup [8, 7 \rangle$

(7) $MCM(P;Q) = 1x^3 + 5x^2 - 2x - 24$ | $x+1$

	1	5	-2	-24
+2		2	14	24
	$1x^2$	$7x^1$	$12x^0$	0

$(x-2)(x^2+7x+12) \rightarrow (x-2)(x+4)(x+3)$

$MCD(P;Q) = x^2 + x - 6$

$x \quad +3$

$x \quad -2$

$\rightarrow (x+3)(x-2)$

(6) Si: Multar: $n-m$

$MCD = x^2 - 5x + 6 \Rightarrow (x-3)(x-2)$

$P(x) = x^3 - 7x^2 + 16x - m$

$(x-3)\ (x-2)$

$\hookrightarrow x-2=0$

$x=2$

$Q(x)=0$

$2^3 - 7(2)^2 + 16(2) - m = 0$

$m = 12$

$Q(x) = x^3 - 8x^2 + 21x - n$

$(x-3)\ (x-2)$

$\hookrightarrow x-3=0$

$x=3$

$3^3 - 8(3)^2 + 21(3) - n = 0$

$18 = n$

$n - m$

$18 - 12$

6

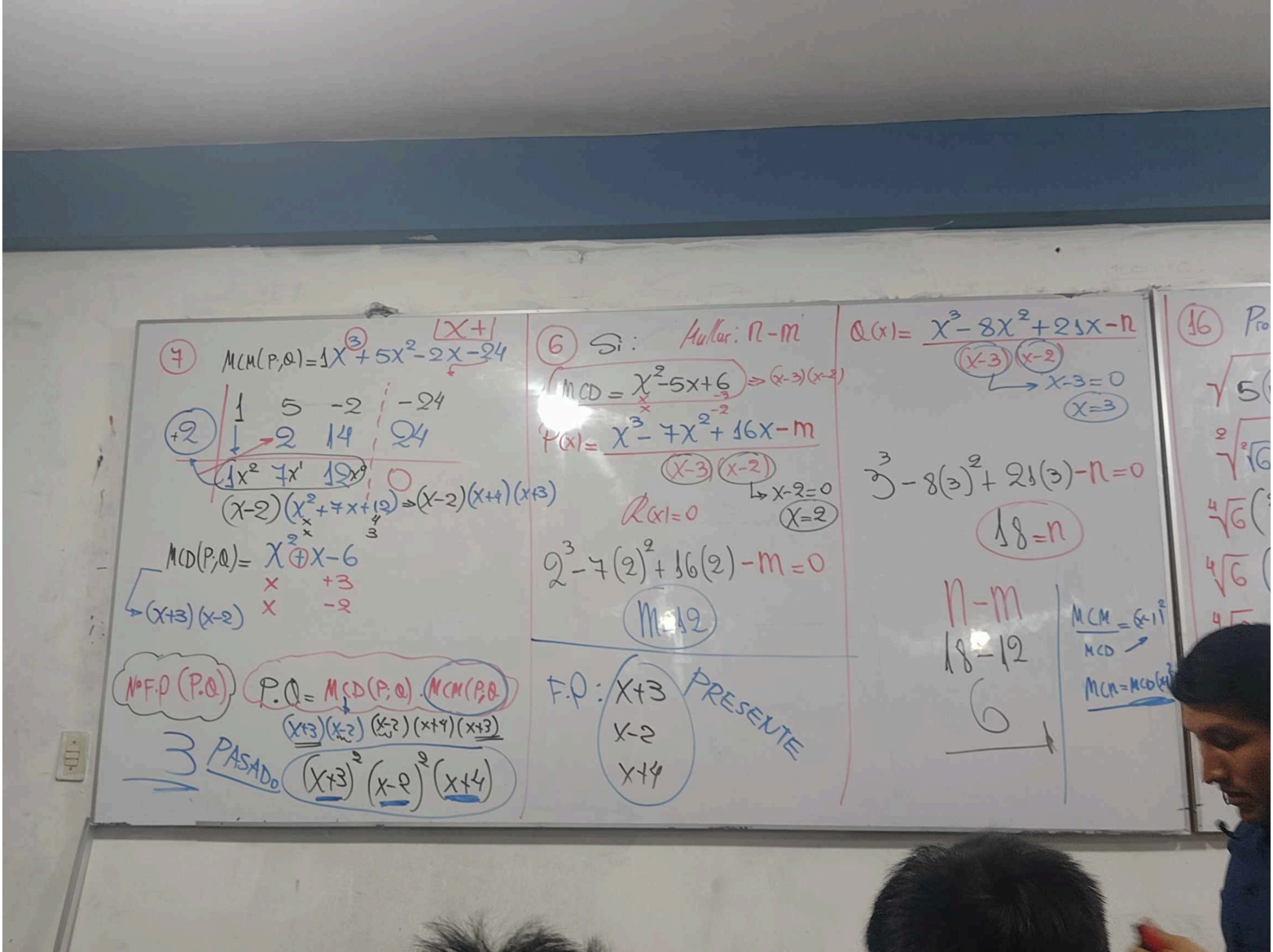
N°F.P (P.Q)

$P.Q = MCD(P;Q) \cdot MCM(P;Q)$

$(x+3)(x-2)(x-2)(x+4)(x+3)$

3 PASADO $(x+3)^2 (x-2)^2 (x+4)$

F.P: $x+3$, $x-2$, $x+4$ PRESENTE


7
MCM(P;Q) = 1x^3 + 5x^2 - 2x - 24
(x+1)
1 5 -2 -24
+2
2 14 24
1x^2 7x 12 0
(x-2)(x^2+7x+12) → (x-2)(x+4)(x+3)
MCD(P;Q) = x^2 + x - 6
x +3
x -2
(x+3)(x-2)
Nº F.P (P.Q)
3
P.Q = MCD(P;Q) . MCM(P;Q)
(x+3)(x-2) (x-2)(x+4)(x+3)
PASADO
(x+3)^2 (x-2)^2 (x+4)
6 Si: Hallar: n-m
MCD = x^2 - 5x + 6 → (x-3)(x-2)
P(x) = x^3 - 7x^2 + 16x - m
(x-3) (x-2)
x-2=0
x=2
Q(x)=0
2^3 - 7(2)^2 + 16(2) - m = 0
m=12
F.P: x+3 x-2 x+4
PRESENTE
Q(x) = x^3 - 8x^2 + 21x - n
(x-3) (x-2)
x-3=0
x=3
3^3 - 8(3)^2 + 21(3) - n = 0
18 = n
n-m
18-12
6
MCM/MCD = (x-1)^2
MCM = MCD(x-1)^2
16

$x^3 - 8x^2 + 21x - n$

$(x-3)(x-2)$

$x-3=0$

$x=3$

$(3)^2 + 21(3) - n = 0$

$18 = n$

$-m$

-12

0

$MCM = (x-1)^2$

MCD

$MCM = MCD(x-1)^2$

16 Producto de Radicales:

$\sqrt{5\sqrt{6} - 12}$ ... $81 \cdot 16$ ... $-3 \cdot 2$ ... -6

$\sqrt[2]{\sqrt{6}(5 - 2\sqrt{6})}$

$\sqrt[4]{6}\left(\sqrt[2]{5 - 2\sqrt{6}}\right)^2$

$\sqrt[4]{6}\left(\sqrt{3} - \sqrt{2}\right)$

$\sqrt[4]{6}\left(\sqrt[4]{9} - \sqrt[4]{4}\right)$

$\sqrt[4]{54} - \sqrt[4]{24}$ PRODUCTO

$\therefore \sqrt[4]{54 \cdot 24} = \sqrt[4]{27 \cdot 2 \cdot 3 \cdot 8}$

18

$\sqrt{x+2 \pm 2\sqrt{2x}} = \sqrt{11 + 3\sqrt{8}} + 2$

$x \quad 2$ ... $4 \cdot 2$

$\sqrt{x} + \sqrt{2} = \sqrt{11 + 3.2\sqrt{2}} + 2$

$\sqrt[2]{(2-\sqrt{3})^2} + \sqrt[2]{(2\sqrt{2}-3)^2} + \sqrt{3} + 2\sqrt{2}$

$\sqrt{11 + 2\sqrt{2 \cdot 3^2}} + 2$

$|2-\sqrt{3}| + |2\sqrt{2}-3|$

$\sqrt{11 + 2\sqrt{18}} + 2$

$2 - \sqrt{3} - 2\sqrt{2} + 3 + \sqrt{3} + 2\sqrt{2}$

$9 \cdot 2$

5

$\sqrt{x} + \sqrt{2} = \sqrt{9} + \sqrt{2} + 2$

$\sqrt{x} = 3 + 2$

$\sqrt[2]{x} = 5$

$x = 5^2$

$x = 25$

17 Calcula el Cubo:

$\Delta = \sqrt[2]{\sqrt[2]{17 + 12\sqrt{2}}}$ ... $9 \cdot 8$

$\sqrt{\sqrt{17 + 2\sqrt{72}}}$

$\sqrt{\sqrt{9} + \sqrt{8}}$ ... $4 \cdot 2$

$\sqrt{3 + 2\sqrt{2}}$

$\sqrt{2} + 1$

$(\sqrt{2}+1)^3$ ... $2\sqrt{2} + 6 + 3\sqrt{2} + 1$

$5\sqrt{2} + 7 \rightarrow 7 + 5\sqrt{2}$

$\sqrt{2}^3 + 3\sqrt{2}^2 \cdot 1 + 3\sqrt{2} \cdot 1^2 + 1^3$

$\sqrt{2} \cdot \sqrt{2}$

$CS: \langle -8, -7] \cup [8, \ldots$

⑦ $MCM(P;Q) = 1x^3 + 5x^2 - 2x - 24$ | $x+1$

	1	5	-2	-24
+2	↓	2	14	24
	$1x^2$	$7x^1$	$12x^0$	0

$(x-2)(x^2+7x+12) \Rightarrow (x-2)(x+4)(x+3)$

$MCD(P;Q) = x^2 + x - 6$

$x \quad +3$

$x \quad -2$

$(x+3)(x-2)$

⑥ Si: Hallar: $n-m$

$MCD = x^2 - 5x + 6 \Rightarrow (x-3)(x-2)$

$P(x) = x^3 - 7x^2 + 16x - m$

$(x-3)(x-2)$

$x-2=0$

$x=2$

$Q(x)=0$

$2^3 - 7(2)^2 + 16(2) - m = 0$

$m = 12$

F.P: $x+3$, $x-2$, $x+4$ — PRESENTE

$Q(x) = x^3 - 8x^2 + 21x - n$

$(x-3)(x-2)$

$x-3=0$

$x=3$

$\sqrt{36} - 1$

$6-1 \Rightarrow$ ⑤

$3^3 - 8(3)^2 + 21(3) - n = 0$

$\sqrt{37} - 1$ ✗

$18 = n$

$n - m$

$18 - 12$

6

$\frac{MCM}{MCD} = (x+1)^2$

$MCM = MCD(x+1)^2$

Nº F.P $(P.Q)$

$P.Q = MCD(P;Q) \cdot MCM(P;Q)$

$(x+3)(x-2)(x-2)(x+4)(x+3)$

3 PASADO

$(x+3)^2 (x-2)^2 (x+4)$