SOLUCIONES FICHA DE TRABAJO B

① $x^3-5x^2+ax+b \;\big|\; x^2-3x+1$

$-x^3+3x^2-x \qquad\qquad x-2$

$-2x^2+(a-1)x+b$

$+2x^2-6x+2$

$(a-1-6)x+b+2$

$(a-7)x+b+2$ Para que sea exacta $\begin{cases} a-7=0;\ a=7 \\ b+2=0;\ b=-2 \end{cases}$

②

	1	0	−3	2	−6
3		3	9	18	60
	1	3	6	20	54

$\frac{1}{2}(x^3+3x^2+6x+20)=\frac{x^3}{2}+\frac{3}{2}x^2+3x+10$

③

	1	2	−3	−8	−4
−1		−1	−1	4	4
	1	1	−4	−4	0
−1		−1	0	4	
	1	0	−4	0	

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

	1	−4	3	4	−4
1		1	−3	0	4
	1	−3	0	4	0
−1		−1	4	−4	
	1	−4	4	0	

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

$P(x)=x(x+1)^2(x+2)(x-2)$

$Q(x)=x^2(x-1)(x+1)(x-2)^2$

$\text{mcd}(P(x),Q(x))=x(x+1)(x-2)$

$\text{mcm}(P(x),Q(x))=x^2(x+1)^2(x-1)(x-2)^2(x+2)$

④ $x^2-2x+1=(x-1)^2$

a) $\left(\frac{x^2}{(x-1)^2}-\frac{2x-3}{x-1}+1\right)\cdot\frac{x-1}{3x-2}=\left(\frac{x^2-(2x-3)(x-1)+(x-1)^2}{(x-1)^2}\right)\cdot\frac{x-1}{3x-2}=$

$=\frac{x^2-(2x^2-2x-3x+3)+x^2+1-2x}{(x-1)^2}\cdot\frac{x-1}{3x-2}=\frac{3x-2}{(x-1)^2}\cdot\frac{x-1}{3x-2}=\frac{1}{x-1}$

b) $\left(\frac{x}{x-y}-1\right)\cdot\left(\frac{x-y}{y^2}\right):\frac{1}{y}=$

$\frac{\cancel{x-x+y}}{x-y}\cdot\frac{x-y}{y^2}:\frac{1}{y}=\frac{1}{y}:\frac{1}{y}=1$

AGUA PARA EL GANADO

① (A) x^3

(B) $x\cdot(x-2)(x+6)$

② $V_{(A)}=V_{(B)}$

$x^3=x(x-2)(x+6)$

$x^3=(x^2-2x)(x+6)$; $x^3=x^3+6x^2-2x^2-12x$; $x^3=x^3+4x^2-12x$

$\cancel{x^3}-\cancel{x^3}-4x^2+12x=0$; $+4x\cdot(-x+3)=0$ $\begin{cases}\cancel{x=0}\\ \boxed{x=3}\end{cases}$

El depósito (A) debe tener 3m de arista y el depósito (B) 3 m x 1m de alto x 9 m de largo.