SOLUCIONES IDENTIDADES NOTABLES

1. Calcula y simplifica:

a) $\left(\frac{2}{3}x^2-\frac{3}{2}\right)^2=\frac{4}{9}x^4-2x^2+\frac{9}{4}$	**d)** $(-3a^2-2a)^2=9a^4+12a^3+4a^2$
b) $\left(\frac{2}{5}x^2+x\right)\left(\frac{2}{5}x^2+x\right)=\frac{4}{25}x^4+\frac{4}{5}x^3+x^2$	**e)** $(-5a^2+2a)^2=25a^4-20a^2+4a^2$
c) $\left(\sqrt{3}x-\sqrt{2}\right)\left(\sqrt{3}x+\sqrt{2}\right)=3x^2-2$	**f)** $\left(\frac{1}{2}a^4-a^2\right)\left(\frac{1}{2}a^4+a^2\right)=\frac{1}{4}a^8-a^4$

2. Expresa en forma de producto (factoriza):

a) $9x^4-6x^2+10=(3x^2-1)^2$	**d)** $a^8-\frac{1}{4}=\left(a^4+\frac{1}{2}\right)\left(a^4-\frac{1}{2}\right)$
b) $36x^6-121y^2=(6x^3+11y)(6x^3-11y)$	**e)** $\frac{25}{9}a^2+\frac{9}{4}-5a=\left(\frac{5}{3}a-\frac{3}{2}\right)^2$
c) $4x^{10}+9y^4+12x^5y^2=(2x^5+3y^2)^2$	**f)** $1-\frac{81}{49}a^{12}=\left(1+\frac{9}{7}a^6\right)\left(1-\frac{9}{7}a^6\right)$

3. Expresa en forma de producto *(extraer primero factor común)*:

a) $18xy^2+24xy+8x=2x(3y+2)^2$	**d)** $100a^8+9a^2-60a^5=a^2(10a^3-3)^2$
b) $20x^3y-20x^2y^2+5xy^3=5xy(2x-y)^2$	**e)** $80x^7-5x^3=5x^3(4x^2+1)(4x^2-1)$
c) $9a^2b^3-4b^5=b^3(3a+2b)(3a-2b)$	**f)** $3a^3-27ab^4=3a(a+3b^2)(a-3b^2)$