1.– Resuelve los siguientes sistemas de ecuaciones no lineales:

a) $\begin{cases} x^2 + y^2 = 290 \\ x + y = 24 \end{cases}$
b) $\begin{cases} x^2 + y^2 = 9 \\ 2x + y = 3 \end{cases}$
c) $\begin{cases} x^2 - xy + y^2 = 7 \\ x + y = 5 \end{cases}$
d) $\begin{cases} x^2 + y^2 = 25 \\ x \cdot y + 12 = 0 \end{cases}$

e) $\begin{cases} x \cdot y = 8 \\ x + y = 6 \end{cases}$
f) $\begin{cases} x^2 + 3xy = 22 \\ x + y = 5 \end{cases}$
g) $\begin{cases} 4x^2 - xy = 2(x + y) \\ y - x = 1 \end{cases}$
h) $\begin{cases} x^2 - y^2 = 17 \\ x - y = 1 \end{cases}$

i) $\begin{cases} x^2 + y^2 = 25 \\ x - \dfrac{3}{4}y = 0 \end{cases}$
j) $\begin{cases} x = 3 - y \\ \dfrac{1}{x} - \dfrac{1}{y} = -\dfrac{1}{2} \end{cases}$
k) $\begin{cases} \dfrac{x - y}{x + y} + \dfrac{x + y}{x - y} = \dfrac{5}{3} \\ x + y = 2 \end{cases}$
l) $\begin{cases} \dfrac{x^2 - 3x + 4}{y^2 - 2y + 3} = \dfrac{1}{3} \\ 7x - 2y = 1 \end{cases}$

m) $\begin{cases} x^2 + y = 6 \\ y \cdot x = 9 \end{cases}$
n) $\begin{cases} y = x^2 + 1 \\ y = x - 1 \end{cases}$
ñ) $\begin{cases} y = 1 + 2x \\ x^2 + y^2 + 6x = 16 \end{cases}$
o) $\begin{cases} 3xy - 4y^2 = 0 \\ 3x - 2y = 1 \end{cases}$

p) $\begin{cases} x - 2y^2 = 0 \\ y + 5 = 3x \end{cases}$
q) $\begin{cases} x^2 + y^2 = 13 \\ y + 3 = 3x \end{cases}$
r) $\begin{cases} 2(x + 2y)^2 - (2x + y)^2 = -1 \\ x - y = 5 \end{cases}$

s) $\begin{cases} x + \dfrac{2}{y} = 1 \\ y + \dfrac{1}{x} = 6 \end{cases}$
t) $\begin{cases} x + y = 3 \\ \dfrac{1}{x} + \dfrac{1}{y} = \dfrac{3}{2} \end{cases}$
u) $\begin{cases} y = x^2 \\ y = x^3 - 2x \end{cases}$
v) $\begin{cases} \dfrac{1}{x} + \dfrac{1}{y} = \dfrac{5}{6} \\ xy = 6 \end{cases}$

ω) $\begin{cases} 2x^2 - 5y^2 = 13 \\ x \cdot y + 3 = 0 \end{cases}$
x) $\begin{cases} x^2 - y^2 + 8 = 0 \\ y^2 = 6x \end{cases}$
y) $\begin{cases} x^2 + xy + y^2 = 19 \\ x \cdot y = 6 \end{cases}$
z) $\begin{cases} x^2 + y^2 = 61 \\ x \cdot y = 30 \end{cases}$

α) $\begin{cases} 2x^2 - 3y^2 = -6 \\ 4x^2 - y^2 = 8 \end{cases}$
β) $\begin{cases} 2x^2 - y^2 = -1 \\ x^2 + 2y^2 = 22 \end{cases}$
γ) $\begin{cases} x^2 + y^2 + 9x + 14 = 0 \\ y^2 = 16 + 4x \end{cases}$
δ) $\begin{cases} x^2 + y^2 = 32 \\ y^2 - 4x = 0 \end{cases}$

ε) $\begin{cases} \dfrac{1}{x} + \dfrac{1}{y} = \dfrac{5}{6} \\ \dfrac{1}{x} - \dfrac{1}{y} = \dfrac{1}{6} \end{cases}$
ζ) $\begin{cases} \dfrac{2}{x} + \dfrac{3}{y} = \dfrac{17}{12} \\ \dfrac{1}{x} - \dfrac{2}{y} = -\dfrac{1}{6} \end{cases}$
η) $\begin{cases} \dfrac{x^2 - 2x}{3} = 1 - y \\ y = \dfrac{-2x + 7}{3} \end{cases}$
θ) $\begin{cases} y = \sqrt{x} \\ y = \sqrt[3]{x} \end{cases}$

ι) $\begin{cases} x^2 - 25 = -y^2 \\ x - \dfrac{3}{4}y = 0 \end{cases}$
κ) $\begin{cases} x^2 + y^2 = 1184 \\ \dfrac{x}{y} = \dfrac{5}{7} \end{cases}$
λ) $\begin{cases} \sqrt{x + y} + 2 = x + 1 \\ 2x - y = 5 \end{cases}$
μ) $\begin{cases} 2x^2 - y^2 = 2 \\ 5y \cdot x = -10 \end{cases}$

ν) $\begin{cases} x^2 + xy = 77 \\ xy + y^2 = 44 \end{cases}$
ξ) $\begin{cases} x^2 + y^2 = 25 \\ x + y = 7 \end{cases}$
o) $\begin{cases} x^2 + y^2 = 25 + 2xy \\ x^2 + 2xy = 169 - y^2 \end{cases}$
π) $\begin{cases} x \cdot y = 12 \\ x + y = 7 \end{cases}$

ρ) $\begin{cases} 5x + 6y = 61 \\ x \cdot y = 30 \end{cases}$
σ) $\begin{cases} 4xy - 6y = 3 \\ 3x - 8y = 5 \end{cases}$
τ) $\begin{cases} xy - y^2 = 0 \\ 2x + y = 3 \end{cases}$
υ) $\begin{cases} 2\sqrt{x + 1} = y + 1 \\ 2x - 3y = 1 \end{cases}$

φ) $\begin{cases} y^2 - 2y + 1 = x \\ \sqrt{x} + y = 5 \end{cases}$
χ) $\begin{cases} \sqrt{x} + \sqrt{y} = 15 \\ x - y = 105 \end{cases}$
ψ) $\begin{cases} x = 2y + 1 \\ \sqrt{x + y} - \sqrt{x - y} = 2 \end{cases}$
ω) $\begin{cases} x + y = 5\sqrt{y} \\ \sqrt{x} - \sqrt{y} = 1 \end{cases}$

Soluciones de la forma (x, y): a) (13, 11) y (11, 13); **b)** (0,3) y (12/5, –9/5); **c)** (3, 2) y (2, 3); **d)** (13, 11) y (11, 13); **e)** (4, 2) y (2, 4); **f)** (11/2, –1/2) y (2, 3); **g)** (–1/3, 2/3) y (2, 3); **h)** (9, 8); **i)** (–3,–4) y (3, 4); **j)** (2, 1) y (–3, 6); **k)** No sol; **l)** (–31/37, –127/37) y (1, 3); **m)** (3, 2) y (2, 3); **n)** No sol; **ñ)** (–3, –5) y (1, 3); **o)** (1/3, 0) y (2/3, 1/2); **p)** (25/18, –5/6) y (2, 1); **q)** (–1/5, –18/5) y (2, 3); **r)** (8/3, –7/3) y (22/3, 7/3); **s)** (1/3, 3) y (1/2, 4); **t)** (2, 1) y (1, 2); **u)** (0, 0); (2, 4) y (–1, 1); **v)** (3, 2) y (2, 3); **ω)** (–3, 1) y (3, –1); **x)** (2, –2√3); (2, 2√3); (4, –2√6) y (4, 2√6); **y)** (–2, –3); (2, 3); (–3, –2) y (3, 2); **z)** (–5, –6); (5, 6); (–6, –5) y (6, 5); **α)** (–√3,–2); (–√3,2); (√3,–2) y (√3,2); **β)** (–2,–3); (2,–3); (–2,3) y (2,3); **γ)** (–3,–2); (–3,2); **δ)** (4, 4) y (4,–4); **ε)** (2,3); **ζ)** (3,4); **η)** (2, 1); **θ)** (1,1); **ι)** (–3,–4); (3,4); **κ)** (–20,–28); (20,28); **λ)** (3, 1); (2,–1); **μ)** (√2,–√2) y (–√2, √2); **ν)** (–7,–7) y (7, 4); **ξ)** (4, 3) y (3, 4); **o)** (9, 4); (–4,–9); (4, 9) y (–9, –4); **π)** (4, 3) y (3, 4); **ρ)** (5, 6) y (36/6 ,25/6); **σ)** (1/6, –9/16) y (3, ½); **τ)** (3/2, 0) y (1, 1); **υ)** (–1,–1) y (8, 5); **φ)** (4, 3); **χ)** (121, 16); **ψ)** (17, 8); **ω)** (9/4, ¼) y (4, 1).