

1. Resuelve las siguientes ecuaciones polinómicas :

a)  $2 - (3 - 2(x + 1)) = 3x + 2(x - (3 + 2x))$  *Sol: x = -7*

b)  $x + \frac{1}{3}\left(x - 3 - \frac{1}{2}(4 - 3x)\right) = \frac{2}{3}\left(1 - \frac{5x}{2}\right)$  *Sol: x = \frac{2}{3}*

c)  $2\left(x - 3\left(x - 4\left(x - \left(\frac{x}{8} + 1\right)\right)\right)\right) = 1$  *Sol: x = \frac{25}{17}*

d)  $\frac{2x+5-x-1}{2} - \frac{9-x-5+3x-2}{3} = \frac{x-3(2x-4)+2}{2}$  *Sol: x = \frac{17}{7}*

e)  $5(x^2 - 1) + 3(x^2 - 5) + 4 = 16$  *Sol: x = -2 ; x = 2*

f)  $\frac{2-5x^2}{3x} - \frac{4}{3} = \frac{4x-7}{6}$  *Sol: x = -\frac{4}{7} ; x = \frac{1}{2}*

g)  $x^4 - 5x^2 + 4 = 0$  *Sol: x = \pm 1 ; x = \pm 2*

h)  $x^4 - 10x^2 + 9 = 0$  *Sol: x = \pm 1 ; x = \pm 3*

i)  $x^6 - 9x^3 + 8 = 0$  *Sol: x = 1 ; x = 2*

j)  $x^8 - 7x^4 + 6 = 0$  *Sol: x = \pm 1 ; x = \pm \sqrt[4]{6}*

k)  $x^4 + 13x^2 = -36$  *Sol: no tiene*

l)  $x^3 + x^2 + 4x + 4 = 0$  *Sol: x = -1*

m)  $2x^3 - 4x^2 - 7x = -x^2 + x + 3$  *Sol: x = -1 ; x = -\frac{1}{2} ; x = 3*

n)  $(2x - 3)(1 - x)(x + 6) = 0$  *Sol: x = \frac{3}{2} ; x = 1 ; x = -6*

o)  $x^5 - x^4 - 4x^3 - 4x^2 - 5x - 3 = 0$  *Sol: x = -1 ; x = 3*

2. Resuelve las siguientes ecuaciones racionales :

a)  $\frac{1}{x^2-x} - \frac{1}{x-1} = 2$  *Sol: x = -\frac{1}{2}*

b)  $\frac{1}{x-6} + \frac{x}{x-2} = \frac{4}{x^2-8x+12}$  *Sol: x = -1*

c)  $\frac{3}{x} = 1 + \frac{x-13}{6}$  *Sol: x = -2 ; x = 9*

d)  $\frac{2}{x+1} + \frac{3x-3}{x^2-1} = \frac{2}{x-1} + \frac{7}{x+1}$  *Sol: x = 0*

e)  $\frac{x-1}{x+1} - \frac{3+x}{x} = 2$  *Sol: x = -3 ; x = -\frac{1}{2}*

f)  $\frac{3}{x + \frac{1}{2 + \frac{x+1}{x-2}}} = \frac{1}{x}$  *Sol: x = \frac{1}{2} ; x = \frac{2}{3}*