

ΑΣΚΗΣΕΙΣ ΣΕ ΑΘΡΟΙΣΜΑ ΡΗΤΩΝ ΠΑΡΑΣΤΑΣΕΩΝ

1.  $\frac{y}{x} - \frac{x+y}{x-y} + \frac{y^2}{x^2-xy} - \frac{x(x+y)}{2y(y-x)} \quad \left( \frac{x}{2y} \right)$
2.  $\frac{x^2}{a} - \frac{a^2}{x} - \frac{x^2-2a^2-ax}{a+x} + \frac{(a-x)(a^2+x^2)}{ax} \quad (a)$
3.  $\frac{x^3+2x^2y-y^3}{(x+y)^3} + \frac{2y}{x+y} - \frac{xy}{x^2+2xy+y^2} \quad (1)$
4.  $\frac{a+x}{a-x} + \frac{a-2x}{a+x} + \frac{a^2+3x^2}{x^2-a^2} \quad \left( \frac{a}{a+x} \right)$
5.  $\frac{a-2}{2a+1} + \frac{2a+1}{1-2a} - \frac{2-3a(2a+3)}{4a^2-1} \quad (1)$
6.  $\frac{4}{a^2-x^2} + \frac{3x}{a^2x-a^3} - \frac{a-3x}{a^3-ax^2} \quad \left( \frac{3}{a^2} \right)$
7.  $\frac{2(a-x)}{a^3+a^2x} + \frac{a+x}{a^3+ax^2+2a^2x} - \frac{5}{a^2+ax} \quad \left( -\frac{2}{a^2} \right)$
8.  $\frac{a-3}{3a^2+a} - \frac{a+3}{a-3a^2} - \frac{a}{9a^2-1} + \frac{4a^2-7}{9a^3-a} \quad \left( \frac{1}{a} \right)$
9.  $\frac{x+2}{x^2+7x+10} - \frac{x-3}{x^2-8x+15} + \frac{x^2-15}{x^2-25} \quad (1)$
10.  $\frac{2x+1}{x^2-5x+6} - \frac{x+3}{x^2-x-6} - \frac{x+5}{x^2-4} - \frac{19}{x^3-3x^2-4x+12} \quad \left( \frac{2}{(x-2)(x-3)} \right)$
11.  $\frac{x^2}{2a^2+2ax} - \frac{a^2}{3ax+3x^2} + \frac{a^2-2x^2}{3ax} - \frac{1}{2} + \frac{a+6x}{6a+6x} \quad \left( -\frac{x}{6a} \right)$
12.  $\frac{a+3}{a-2} - \frac{a+1}{a-1} - \frac{2a+1}{a^2-3a+2} \quad \left( \frac{1}{a-1} \right)$
13.  $\frac{x}{x^2-1} + \frac{x^2+x+1}{x^3-x^2+x-1} - \frac{x^2-x-1}{x^3+x^2+x+1} + \frac{4x^2+3x}{1-x^4} \quad \left( \frac{x^3}{x^4-1} \right)$
14.  $\frac{2x-4}{x^2-4x+3} - \frac{x+1}{x^2-x-6} - \frac{x+3}{x^2+x-2} - \frac{x^2-x-4}{(1-x)(2+x)(x+3)} \quad \left( \frac{1}{x^2+4x+3} \right)$
15.  $\frac{1}{a^3-a^2x-a^2y+axy} + \frac{1}{y^3-y^2x-ay^2+axy} + \frac{1}{x^3-yx^2-ax^2+axy} \quad \left( \frac{1}{axy} \right)$

Οι παραστάσεις μέσα στις παρενθέσεις δεξιά, είναι τα αποτελέσματα που πρέπει να βρείτε.