1. Simplify the expression: $\dfrac{a}{a-b} - \dfrac{b}{a+b} + \dfrac{2ab}{a^2-b^2}$

2. Calculate: $\cos\left(arctg\,\dfrac{3}{4}\right)$

3. Solve the equation: $\log_3(3^x - 8) = 2 - x$

4. Solve the inequality: $\dfrac{2^x - 1}{3x+2} < 0$

5. Solve the equation: $2cos^2 4x - 6cos^2 2x + 1 = 0$

6. Solve a system of equations: $\begin{cases} x + 2y = 4 \\ x^2 + xy = y - 5 \end{cases}$

7. Find the domain of the function: $y = \sqrt{\dfrac{x^2}{x^2-4}}$

8. Solve the inequality: $\log_{6.7}\dfrac{x}{x+3} > 0$

9. Find the maximum and minimum value of the function on the interval [-1;2]:
$$y = 2x^3 + 3x^2 - 12x - 1$$

10. Write the equation of the tangent to the graph of the function at the point with abscissa $x_0 = \pi$:
$$y = \sin x$$

11. Find the sum of: $1 - \dfrac{1}{3} + \dfrac{1}{9} - \cdots$

12. find the product of the roots of the equation: $35x^{-2} - 10x^{-1} = 7$

13. Examine a function and plot the chart: $y = \dfrac{x^2}{x+3}$