

Imię i nazwisko:

Klasa:

Grupa 1

Wynik:

Question 1 (1 pt)

The set of solutions to $\frac{x^2 + x - 6}{x^2 - x - 2} = 0$ is:

- A. $\{-1, 2\}$ B. $\{-3, 2\}$ C. $\{-3\}$ D. $\{2\}$

Question 2 (1 pt)

If the function $f(x) = \frac{6x - 3}{ax + 5}$ has a **horizontal** asymptote $y = 2$, then:

- A. $a = 2$ B. $a = -2.5$ C. $a = 3$ D. $a = -2$

Question 3 (2 pt)

W wyniku przesunięcia wykresu funkcji $f(x) = \frac{2}{x}$ o wektor $[2, 3]$ powstał wykres funkcji $g(x)$. Jeśli $g(x) = \frac{ax + b}{x + d}$, ustal wartości współczynników a , b i d .

Question 4 (2 pts)

Solve the equation:

$$\frac{4}{4-x^2} + \frac{1}{x+2} = 2$$

Question 5 (3 pts)

Solve the inequality:

$$\frac{x^3 - x^2 - x + 1}{x^3 + x^2 - x - 1} \leq 0$$

Question 6 (6 pts)

For what values of parameter m the equation:

$$\frac{x^2 - 2(m + 1)x + m^2 + 2m}{x + 3} = 0$$

has two solutions with the same sign?

Question 7 (5 pts)

Consider the function $f(x) = \frac{x^3 - 7x + 6}{x^2 - 3x + 2}$. Sketch the graph of $f(x)$ and the graph of $g(x) = f(x) + |f(x)|$.