

Imię i nazwisko:

Klasa:

Grupa 1

Wynik:

Question 1 (1 pt)

The domain of $f(x) = \frac{x^2 + x - 2}{x^2 - 2x - 8}$ is the set:

- A. $\mathbb{R} - \{-2, 4\}$ B. $\mathbb{R} - \{-2, 1\}$ C. $\mathbb{R} - \{-2\}$ D. $\mathbb{R} - \{-2, 1, 4\}$

Question 2 (1 pt)

If the function $f(x) = \frac{3x - 7}{2x + a}$ has a vertical asymptote $x = -4$, then:

- A. $a = -8$ B. $a = 8$ C. $a = -4$ D. $a = 4$

Question 3 (2 pt)

Let n be an integer. Find the possible values of n , so that the expression $\frac{3n - 2}{n - 2}$ is also an integer.

Question 4 (2 pts)

Solve the equation:

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

Question 5 (3 pts)

Solve the inequality:

$$x^2 + \frac{14}{x} \leq 2x + 7$$

Question 6 (5 pts)

For what values of parameter m the equation:

$$\frac{x^2 - 2(m - 1)x + 2m + 1}{x^2 - 16} = 0$$

has two solutions with opposite signs?

Question 7 (6 pts)

Consider the function $F(x) = \frac{2x + 4}{x - 1}$.

a) Sketch the graph of $F(x)$.

$$\text{Let } G(x) = \left| \frac{2|x| + 4}{|x| - 1} \right|$$

b) Find the set of value of parameter m for which the equation:

$$G(x) = m^2$$

has exactly two solutions.