

III kontrolni zadatak (I - A grupa)

Izračunati: 1. $\left(\frac{9a^2+1}{1-6a+9a^2} - \frac{1}{27a^3-9a^2-3a+1} : \frac{1}{27a^3+1}\right)(27a^3-18a^2+3a)$ 2. $\frac{x^3+2x^2-x-2}{a+1} : \frac{x^3-2x^2-x+2}{a^2+a}$

3. $\frac{a^2+a-2}{a^2-3a} \cdot \left(\frac{(a+2)^2-a^2}{4a^2-4} - \frac{3}{a^2-a}\right)$ 4. $\frac{\left(\frac{1}{x^2}-\frac{1}{y^2}\right) \cdot \left(\frac{x-y}{x+y}-1\right)}{\left(\frac{x-y}{x+y}+1\right) \cdot \left(\frac{x}{y}-\frac{y}{x}\right)}$ 5. $\frac{x}{x-1} - \frac{3x-1}{x-2} + \frac{2x+1}{x^2-3x+2}$

III kontrolni zadatak (I - B grupa)

Izračunati: 1. $\frac{3x-6}{x+2} \cdot \left(\frac{3}{x-2} + \frac{3x}{x^3-8} \cdot \frac{x^2+2x+4}{x+2}\right) : \frac{2x+2}{x^2+4x+4}$ 2. $6x + \left(\frac{x}{x-2} - \frac{x}{x+2}\right) : \frac{4x}{x^4-2x^3+8x-16}$

3. $\frac{4a^2-1}{a^3-a^2-a+1} : \left(\frac{a}{a^2-2a+1} + \frac{a}{a^2-1} - \frac{2}{a+1}\right)$ 4. $\frac{\frac{2x+y}{2x-y} - \frac{2x-y}{2x+y}}{\frac{4x^2+y^2}{4x^2-y^2} - \frac{4x^2-y^2}{4x^2+y^2}}$ 5. $\frac{2x}{x-1} - \frac{3x^2+2x+1}{x^3-1} + \frac{x+1}{x^2+x+1}$

III kontrolni zadatak (I - C grupa)

Izračunati: 1. $\left(\frac{2a^2+3a}{9+12a+4a^2} - \frac{5a}{2a+3} + \frac{4a-1}{2a+1}\right) \cdot \frac{2a+3}{2a-3}$ 2. $\left(\frac{x^2+xy}{x^2y+y^3} - \frac{2xy}{y^3-xy^2+x^2y-x^3}\right) \cdot \left(1 - \frac{y-1}{x} - \frac{y}{x^2}\right)$

3. $\left(x + \frac{6x-12}{2x-4}\right) \cdot \frac{1}{2x^2+6x-ax-3a} + \frac{2a}{a^2-4x^2}$ 4. $\frac{\left(2x - \frac{a^2}{2x}\right) \cdot \left(4x^2 - \frac{8x^3-2a^2x}{2x+a}\right)}{1 - \frac{2x}{2x+a}}$ 5. $\frac{x-5}{x-3} + \frac{x+3}{x+5} + \frac{16}{x^2+2x-15}$

III kontrolni zadatak (I - D grupa)

Izračunati: 1. $\left(\frac{3}{x-y} + \frac{3x}{x^3-y^3} \cdot \frac{x^2+xy+y^2}{x+y}\right) : \left(\frac{2x+y}{x^2+2xy+y^2} \cdot \frac{3}{x+y}\right)$ 2. $\frac{x^3+2x^2-x-2}{a+1} \cdot \frac{a^2+a}{x^3-2x^2-x+2} : \frac{x+2}{x-2}$

3. $\frac{x}{ax-2a^2} - \frac{2}{x^2+x-2ax-2a} \left(1 + \frac{3x+x^2}{x+3}\right)$ 4. $\frac{\frac{a^3}{8b^3}-1}{\frac{a^2}{4b^2} + \frac{a}{2b} + 1} : \left(\frac{a}{2b} - \frac{2b}{a}\right)$ 5. $\frac{4x^2+9x+5}{x^3-1} - \frac{1-2x}{x^2+x+1} - \frac{6}{1-x}$

III kontrolni zadatak (I - A grupa)

Izračunati: 1. $\left(\frac{9a^2+1}{1-6a+9a^2} - \frac{1}{27a^3-9a^2-3a+1} : \frac{1}{27a^3+1}\right)(27a^3-18a^2+3a)$ 2. $\frac{x^3+2x^2-x-2}{a+1} : \frac{x^3-2x^2-x+2}{a^2+a}$

3. $\frac{a^2+a-2}{a^2-3a} \cdot \left(\frac{(a+2)^2-a^2}{4a^2-4} - \frac{3}{a^2-a}\right)$ 4. $\frac{\left(\frac{1}{x^2}-\frac{1}{y^2}\right) \cdot \left(\frac{x-y}{x+y}-1\right)}{\left(\frac{x-y}{x+y}+1\right) \cdot \left(\frac{x}{y}-\frac{y}{x}\right)}$ 5. $\frac{x}{x-1} - \frac{3x-1}{x-2} + \frac{2x+1}{x^2-3x+2}$

III kontrolni zadatak (I - B grupa)

Izračunati: 1. $\frac{3x-6}{x+2} \cdot \left(\frac{3}{x-2} + \frac{3x}{x^3-8} \cdot \frac{x^2+2x+4}{x+2}\right) : \frac{2x+2}{x^2+4x+4}$ 2. $6x + \left(\frac{x}{x-2} - \frac{x}{x+2}\right) : \frac{4x}{x^4-2x^3+8x-16}$

3. $\frac{4a^2-1}{a^3-a^2-a+1} : \left(\frac{a}{a^2-2a+1} + \frac{a}{a^2-1} - \frac{2}{a+1}\right)$ 4. $\frac{\frac{2x+y}{2x-y} - \frac{2x-y}{2x+y}}{\frac{4x^2+y^2}{4x^2-y^2} - \frac{4x^2-y^2}{4x^2+y^2}}$ 5. $\frac{2x}{x-1} - \frac{3x^2+2x+1}{x^3-1} + \frac{x+1}{x^2+x+1}$

III kontrolni zadatak (I - C grupa)

Izračunati: 1. $\left(\frac{2a^2+3a}{9+12a+4a^2}-\frac{5a}{2a+3}+\frac{4a-1}{2a+1}\right)\cdot\frac{2a+3}{2a-3}$ 2. $\left(\frac{x^2+xy}{x^2y+y^3}-\frac{2xy}{y^3-xy^2+x^2y-x^3}\right)\cdot\left(1-\frac{y-1}{x}-\frac{y}{x^2}\right)$
 3. $\left(x+\frac{6x-12}{2x-4}\right)\cdot\frac{1}{2x^2+6x-ax-3a}+\frac{2a}{a^2-4x^2}$ 4. $\frac{\left(2x-\frac{a^2}{2x}\right)\cdot\left(4x^2-\frac{8x^3-2a^2x}{2x+a}\right)}{1-\frac{2x}{2x+a}}$ 5. $\frac{x-5}{x-3}+\frac{x+3}{x+5}+\frac{16}{x^2+2x-15}$

III kontrolni zadatak (I - D grupa)

Izračunati: 1. $\left(\frac{3}{x-y}+\frac{3x}{x^3-y^3}\cdot\frac{x^2+xy+y^2}{x+y}\right):\left(\frac{2x+y}{x^2+2xy+y^2}\cdot\frac{3}{x+y}\right)$ 2. $\frac{x^3+2x^2-x-2}{a+1}\cdot\frac{a^2+a}{x^3-2x^2-x+2}:\frac{x+2}{x-2}$
 3. $\frac{x}{ax-2a^2}-\frac{2}{x^2+x-2ax-2a}\left(1+\frac{3x+x^2}{x+3}\right)$ 4. $\frac{\frac{a^3}{8b^3}-1}{\frac{a^2}{4b^2}+\frac{a}{2b}+1}:\left(\frac{a}{2b}-\frac{2b}{a}\right)$ 5. $\frac{4x^2+9x+5}{x^3-1}-\frac{1-2x}{x^2+x+1}-\frac{6}{1-x}$

III kontrolni zadatak (I - A grupa)

Izračunati: 1. $\left(\frac{9a^2+1}{1-6a+9a^2}-\frac{1}{27a^3-9a^2-3a+1}:\frac{1}{27a^3+1}\right)(27a^3-18a^2+3a)$ 2. $\frac{x^3+2x^2-x-2}{a+1}:\frac{x^3-2x^2-x+2}{a^2+a}$
 3. $\frac{a^2+a-2}{a^2-3a}\cdot\left(\frac{(a+2)^2-a^2}{4a^2-4}-\frac{3}{a^2-a}\right)$ 4. $\frac{\left(\frac{1}{x^2}-\frac{1}{y^2}\right)\cdot\left(\frac{x-y}{x+y}-1\right)}{\left(\frac{x-y}{x+y}+1\right)\cdot\left(\frac{x}{y}-\frac{y}{x}\right)}$ 5. $\frac{x}{x-1}-\frac{3x-1}{x-2}+\frac{2x+1}{x^2-3x+2}$

III kontrolni zadatak (I - B grupa)

Izračunati: 1. $\frac{3x-6}{x+2}\cdot\left(\frac{3}{x-2}+\frac{3x}{x^3-8}\cdot\frac{x^2+2x+4}{x+2}\right):\frac{2x+2}{x^2+4x+4}$ 2. $6x+\left(\frac{x}{x-2}-\frac{x}{x+2}\right):\frac{4x}{x^4-2x^3+8x-16}$
 3. $\frac{4a^2-1}{a^3-a^2-a+1}:\left(\frac{a}{a^2-2a+1}+\frac{a}{a^2-1}-\frac{2}{a+1}\right)$ 4. $\frac{\frac{2x+y}{4x^2+y^2}-\frac{2x-y}{4x^2-y^2}}{\frac{2x-y}{4x^2-y^2}-\frac{2x+y}{4x^2+y^2}}$ 5. $\frac{2x}{x-1}-\frac{3x^2+2x+1}{x^3-1}+\frac{x+1}{x^2+x+1}$

III kontrolni zadatak (I - C grupa)

Izračunati: 1. $\left(\frac{2a^2+3a}{9+12a+4a^2}-\frac{5a}{2a+3}+\frac{4a-1}{2a+1}\right)\cdot\frac{2a+3}{2a-3}$ 2. $\left(\frac{x^2+xy}{x^2y+y^3}-\frac{2xy}{y^3-xy^2+x^2y-x^3}\right)\cdot\left(1-\frac{y-1}{x}-\frac{y}{x^2}\right)$
 3. $\left(x+\frac{6x-12}{2x-4}\right)\cdot\frac{1}{2x^2+6x-ax-3a}+\frac{2a}{a^2-4x^2}$ 4. $\frac{\left(2x-\frac{a^2}{2x}\right)\cdot\left(4x^2-\frac{8x^3-2a^2x}{2x+a}\right)}{1-\frac{2x}{2x+a}}$ 5. $\frac{x-5}{x-3}+\frac{x+3}{x+5}+\frac{16}{x^2+2x-15}$

III kontrolni zadatak (I - D grupa)

Izračunati: 1. $\left(\frac{3}{x-y}+\frac{3x}{x^3-y^3}\cdot\frac{x^2+xy+y^2}{x+y}\right):\left(\frac{2x+y}{x^2+2xy+y^2}\cdot\frac{3}{x+y}\right)$ 2. $\frac{x^3+2x^2-x-2}{a+1}\cdot\frac{a^2+a}{x^3-2x^2-x+2}:\frac{x+2}{x-2}$
 3. $\frac{x}{ax-2a^2}-\frac{2}{x^2+x-2ax-2a}\left(1+\frac{3x+x^2}{x+3}\right)$ 4. $\frac{\frac{a^3}{8b^3}-1}{\frac{a^2}{4b^2}+\frac{a}{2b}+1}:\left(\frac{a}{2b}-\frac{2b}{a}\right)$ 5. $\frac{4x^2+9x+5}{x^3-1}-\frac{1-2x}{x^2+x+1}-\frac{6}{1-x}$

III kontrolni zadatak (I - A grupa)

1. Za koje x je definisan razlomak $\frac{3x+2}{x^2-11x+24}$. 2. Izra~unati

$$\frac{a^2-bx}{a^2-ab+bx-ax} - \frac{3b-a}{2a-2b} + \frac{a+2x}{3a-3x}$$

3. Uprostiti izraz: a) $\left(\frac{9a^2+1}{1-6a+9a^2} - \frac{1}{27a^3-9a^2-3a+1} : \frac{1}{27a^3+1}\right)(27a^3-18a^2+3a)$

b) $\frac{a^2+a-2}{a^2-3a} \cdot \left(\frac{(a+2)^2-a^2}{4a^2-4} - \frac{3}{a^2-a}\right)$ c) $\frac{\left(\frac{1}{x^2} - \frac{1}{y^2}\right) \cdot \left(\frac{x-y}{x+y} - 1\right)}{\left(\frac{x-y}{x+y} + 1\right) \cdot \left(\frac{x}{y} - \frac{y}{x}\right)}$

III kontrolni zadatak (I - B grupa)

1. Skratiti razlomak $\frac{a^2-ax+a-x}{a^2-ax-a+x}$. 2. Izra~unati $\frac{5}{3x-3a} + \frac{a-3x}{x^2-a^2} + \frac{1}{2x+2a} + \frac{17x-25a}{6x^2-6a^2}$.

3. Uprostiti izraz: a) $\frac{3x-6}{x+2} \cdot \left(\frac{3}{x-2} + \frac{3x}{x^3-8} \cdot \frac{x^2+2x+4}{x+2}\right) : \frac{2x+2}{x^2+4x+4}$

b) $\frac{4a^2-1}{a^3-a^2-a+1} : \left(\frac{a}{a^2-2a+1} + \frac{a}{a^2-1} - \frac{2}{a+1}\right)$ c) $\frac{\frac{2x+y}{2x-y} - \frac{2x-y}{2x+y}}{\frac{4x^2+y^2}{4x^2-y^2} - \frac{4x^2-y^2}{4x^2+y^2}}$

III kontrolni zadatak (I - C grupa)

1. Za koje x je definisan razlomak $\frac{x+3}{x^2+7x+10}$. 2. Izra~unati

$$\frac{x}{2x-a} + \frac{2x^2+2ax}{2ax+3a^2} - \frac{4ax}{4x^2+4ax-3a^2}$$

3. Uprostiti izraz: a) $\left(x + \frac{6x-12}{2x-4}\right) \cdot \frac{1}{2x^2+6x-ax-3a} + \frac{2a}{a^2-4x^2}$

b) $\left(\frac{2a^2+3a}{9+12a+4a^2} - \frac{5a}{2a+3} + \frac{4a-1}{2a+1}\right) \cdot \frac{2a+3}{2a-3}$ c) $\frac{\left(2x - \frac{a^2}{2x}\right) \cdot \left(4x^2 - \frac{8x^3-2a^2x}{2x+a}\right)}{1 - \frac{2x}{2x+a}}$

III kontrolni zadatak (I - D grupa)

1. Skratiti razlomak $\frac{a^2-b^2+c^2+2ac}{a^2-b^2-c^2+2bc}$. 2. Izra~unati $\frac{a^2+ax}{a^2x-x^3} - \frac{a-x}{ax+x^2} - \frac{2x}{a^2-x^2} + \frac{3}{a+x}$.

3. Uprostiti izraz: a) $\left(\frac{3}{x-y} + \frac{3x}{x^3-y^3} \cdot \frac{x^2+xy+y^2}{x+y}\right) : \left(\frac{2x+y}{x^2+2xy+y^2} \cdot \frac{3}{x+y}\right)$

b) $\frac{x}{ax-2a^2} - \frac{2}{x^2+x-2ax-2a} \left(1 + \frac{3x+x^2}{x+3}\right)$ c) $\frac{\frac{a^3-1}{8b^3}}{\frac{a^2}{4b^2} + \frac{a}{2b} + 1} : \left(\frac{a}{2b} - \frac{2b}{a}\right)$

III kontrolni zadatak (I - AA grupa)

1. Za kojex je definisan razlomak $\frac{5x+1}{x^2+6x-7}$. 2. Uprostiti a) $\frac{4x^2+9x+5}{x^3-1} - \frac{1-2x}{x^2+x+1} - \frac{6}{1-x}$

b) $\frac{\left(\frac{1}{a^2} - \frac{1}{b^2}\right) \cdot \left(\frac{a-b}{a+b} - 1\right)}{\left(\frac{a-b}{a+b} + 1\right) \cdot \left(\frac{a}{b} - \frac{b}{a}\right)}$

v) $\frac{x^3+2x^2-x-2}{a+1} \cdot \frac{a^2+a}{x^3-2x^2-x+2} : \frac{x+2}{x-2}$

g) $\left(\frac{2x^2+3x}{9+12x+4x^2} - \frac{5x}{2x+3} + \frac{4x-1}{2x+1}\right) \cdot \frac{2x+3}{2x-3}$

III kontrolni zadatak (I - BB grupa)

1. Skratiti razlomak $\frac{a^4-2a^2+1}{1-a-a^2+a^3}$. 2. Uprostiti a) $\frac{x-5}{x-3} + \frac{x+3}{x+5} + \frac{16}{x^2+2x-15}$ b)

$\frac{\frac{2m+n}{4m^2+n^2} - \frac{2m-n}{4m^2-n^2}}{\frac{2m-n}{4m^2-n^2} - \frac{2m+n}{4m^2+n^2}}$

v) $\left(\frac{x^2+xy}{x^2y+y^3} - \frac{2xy}{y^3-xy^2+x^2y-x^3}\right) \cdot \left(1 - \frac{y-1}{x} - \frac{y}{x^2}\right)$

g) $\frac{4x^2-1}{x^3-x^2-x+1} : \left(\frac{x}{x^2-2x+1} + \frac{x}{x^2-1} - \frac{2}{x+1}\right)$

III kontrolni zadatak (I - VV grupa)

1. Za kojex je definisan razlomak $\frac{2x-3}{x^2+5x+6}$. 2. Uprostiti a) $\frac{2x}{x-1} - \frac{3x^2+2x+1}{x^3-1} + \frac{x+1}{x^2+x+1}$

b) $\frac{\left(2a - \frac{y^2}{2a}\right) \cdot \left(4a^2 - \frac{8a^3-2y^2a}{2a+y}\right)}{1 - \frac{2a}{2a+y}}$

v) $6x + \left(\frac{x}{x-2} - \frac{x}{x+2}\right) : \frac{4x}{x^4-2x^3+8x-16}$

g) $\frac{x^2+x-2}{x^2-3x} \cdot \left(\frac{(x+2)^2-x^2}{4x^2-4} - \frac{3}{x^2-x}\right)$

III kontrolni zadatak (I - GG grupa)

1. Skratiti razlomak $\frac{a^2+2ab+b^2-4}{a^2+4a-b^2+4}$. 2. Uprostiti a) $\frac{x}{x-1} - \frac{3x-1}{x-2} + \frac{2x+1}{x^2-3x+2}$

b) $\frac{\frac{x^3}{8y^3} - 1}{\frac{x^2}{4y^2} + \frac{x}{2y} + 1} : \left(\frac{x}{2y} - \frac{2y}{x}\right)$

v) $\left(\frac{a^3+2a^2-a-2}{m+2} : \frac{a^3-2a^2-a+2}{m^2+2m}\right) \cdot \frac{a-2}{a+2}$

g) $\frac{b}{ab-2a^2} - \frac{2}{b^2+b-2ab-2a} \left(1 + \frac{3b+b^2}{b+3}\right)$

III kontrolni zadatak (I - A grupa)

1. Za kojex je definisan razlomak $\frac{3x+2}{x^2-11x+24}$. 2. Uprostiti a) $\frac{x}{2x-a} + \frac{2x^2+2ax}{2ax+3a^2} - \frac{4ax}{4x^2+4ax-3a^2}$

b) $\frac{\frac{1+a^2}{1-a^2} - \frac{1-a^2}{1+a^2}}{\frac{1+a}{1-a} - \frac{1-a}{1+a}}$

v) $\left(\frac{9a^2+1}{1-6a+9a^2} - \frac{1}{27a^3-9a^2-3a+1} : \frac{1}{27a^3+1}\right) (27a^3-18a^2+3a)$

g) $\frac{a^2+a-2}{a^2-3a} \cdot \left(\frac{(a+2)^2-a^2}{4a^2-4} - \frac{3}{a^2-a}\right)$

III kontrolni zadatak (I - B grupa)

1. Skratiti razlomak $\frac{a^2 - ax + a - x}{a^2 - ax - a + x}$. 2. Izra~unati a) $\frac{5}{3x-3a} + \frac{a-3x}{x^2-a^2} + \frac{1}{2x+2a} + \frac{17x-25a}{6x^2-6a^2}$

b) $\frac{\frac{2x+y}{2x-y} - \frac{2x-y}{2x+y}}{\frac{4x^2+y^2}{4x^2-y^2} - \frac{4x^2-y^2}{4x^2+y^2}}$

v) $\left(\frac{2x}{x^2+2xy} + \frac{4y}{x^2-4y^2} - \frac{y}{xy-2y^2}\right) : \left(1 - \frac{x^2-4y^2-2}{x^2-4y^2}\right)$ g) $\frac{4a^2-1}{a^3-a^2-a+1} : \left(\frac{a}{a^2-2a+1} + \frac{a}{a^2-1} - \frac{2}{a+1}\right)$.

III kontrolni zadatak (I - V grupa)

1. Za kojexje definisan razlomak $\frac{x+3}{x^2+7x+10}$. 2. Uprostiti a) $\frac{a^2-bx}{a^2-ab+bx-ax} - \frac{3b-a}{2a-2b} + \frac{a+2x}{3a-3x}$

b) $\frac{\left(2x - \frac{a^2}{2x}\right) \cdot \left(4x^2 - \frac{8x^3-2a^2x}{2x+a}\right)}{1 - \frac{2x}{2x+a}}$

v) $\left(\frac{m}{m^2-2m+1} - \frac{m}{1-m^2} - \frac{2}{m+1}\right) : \frac{4m^2-1}{m^3-m^2-m+1}$ g) $\left(\frac{2a^2+3a}{9+12a+4a^2} - \frac{5a}{2a+3} + \frac{4a-1}{2a+1}\right) \cdot \frac{2a+3}{2a-3}$.

III kontrolni zadatak (I - G grupa)

1. Skratiti razlomak $\frac{a^2-b^2+c^2+2ac}{a^2-b^2-c^2+2bc}$. 2. Uprostiti a) $\frac{a^2+ax}{a^2x-x^3} - \frac{a-x}{ax+x^2} - \frac{2x}{a^2-x^2} + \frac{3}{a+x}$

b) $\frac{\frac{a^3}{8b^3}-1}{\frac{a^2}{4b^2} + \frac{a}{2b} + 1} : \left(\frac{a}{2b} - \frac{2b}{a}\right)$

v) $\left(\frac{3}{x-y} + \frac{3x}{x^3-y^3} \cdot \frac{x^2+xy+y^2}{x+y}\right) : \left(\frac{2x+y}{x^2+2xy+y^2} \cdot \frac{3}{x+y}\right)$ g) $\frac{x}{ax-2a^2} - \frac{2}{x^2+x-2ax-2a} \left(1 + \frac{3x+x^2}{x+3}\right)$.

III kontrolni zadatak (I - D grupa)

1. Za kojexje definisan razlomak $\frac{3x+2}{x^2+5x-24}$. 2. Uprostiti a) $\frac{4a^2}{8a^3-1} - \frac{1}{1-2a} - \frac{2a}{4a^2+2a+1}$

b) $\frac{1+a + \frac{1}{1-a}}{1 + \frac{1}{1-a^2}}$

v) $\frac{3x-6}{x+2} \cdot \left(\frac{3}{x-2} + \frac{3x}{x^3-8} \cdot \frac{x^2+2x+4}{x+2}\right) : \frac{2x+2}{x^2+4x+4}$ g) $\frac{ax+a}{x^2-x+1} : \left(\frac{1}{x+1} + \frac{3x}{x^3+1}\right)$.

III kontrolni zadatak (I - \ grupa)

1. Skratiti razlomak $\frac{a^2+2ab+b^2-4}{a^2+4a-b^2+4}$. 2. Izra~unati a) $\frac{b-a}{a^2b-ab^2+b^3} + \frac{a-2b}{a^3+b^3} - \frac{1}{ab+b^2}$

b) $\frac{\left(\frac{1}{x^2} - \frac{1}{y^2}\right) \cdot \left(\frac{x-y}{x+y} - 1\right)}{\left(\frac{x-y}{x+y} + 1\right) \cdot \left(\frac{x}{y} - \frac{y}{x}\right)}$

v) $\left(x + \frac{6x-12}{2x-4}\right) \cdot \frac{1}{2x^2+6x-ax-3a} + \frac{2a}{a^2-4x^2}$ g) $\frac{x^4-1}{a^3+a} \cdot \frac{a}{x^3+x^2+x+1} \cdot \frac{2a^2+2}{x^2-2x+1}$.

III kontrolni zadatak (I - AA grupa)

1. Za kojex je definisan razlomak $\frac{5x+1}{x^2+6x-7}$. 2. Uprostiti a) $\frac{4x^2+9x+5}{x^3-1} - \frac{1-2x}{x^2+x+1} - \frac{6}{1-x}$

b) $\frac{\frac{1}{1-x} + \frac{1}{1+x}}{\frac{1}{1-x} - \frac{1}{1+x}}$

v) $\left(\frac{x}{y^2+xy} - \frac{2}{x+y} + \frac{y}{x^2+xy}\right) : \left(\frac{x}{y} - 2 + \frac{y}{x}\right)$

g) $\left(\frac{2x^2+3x}{9+12x+4x^2} - \frac{5x}{2x+3} + \frac{4x-1}{2x+1}\right) : \frac{2x+3}{2x-3}$

III kontrolni zadatak (I - BB grupa)

1. Skratiti razlomak $\frac{a^4-2a^2+1}{1-a-a^2+a^3}$. 2. Uprostiti a) $\frac{x-5}{x-3} + \frac{x+3}{x+5} + \frac{16}{x^2+2x-15}$ b)

$\frac{\frac{2m+n}{4m^2+n^2} - \frac{2m-n}{4m^2-n^2}}{\frac{2m-n}{4m^2-n^2} - \frac{2m+n}{4m^2+n^2}}$

v) $\left(\frac{x^2+xy}{x^2y+y^3} - \frac{2xy}{y^3-xy^2+x^2y-x^3}\right) : \left(1 - \frac{y-1}{x} - \frac{y}{x^2}\right)$

g) $\frac{2a^2-a}{a^3-a^2-a+1} : \left(\frac{a}{a^2-2a+1} + \frac{a}{a^2-1} - \frac{2}{a+1}\right)$

III kontrolni zadatak (I - VV grupa)

1. Za kojex je definisan razlomak $\frac{2x-3}{x^2+5x+6}$. 2. Uprostiti a) $\frac{2x}{x-1} - \frac{3x^2+2x+1}{x^3-1} + \frac{x+1}{x^2+x+1}$

b) $\frac{\left(\frac{1}{a^2} - \frac{1}{b^2}\right) \cdot \left(\frac{a-b}{a+b} - 1\right)}{\left(\frac{a-b}{a+b} + 1\right) \cdot \left(\frac{a}{b} - \frac{b}{a}\right)}$

v) $6x + \left(\frac{x}{x-2} - \frac{x}{x+2}\right) : \frac{4x}{x^4-2x^3+8x-16}$

g) $\left(\frac{x-y}{x+y} + \frac{x+y}{x-y}\right) \left(1 + \frac{x^2+y^2}{2xy}\right) : \frac{x^2+y^2}{xy}$

III kontrolni zadatak (I - GG grupa)

1. Skratiti razlomak $\frac{a^2+2ab+b^2-4}{a^2+4a-b^2+4}$. 2. Uprostiti a) $\frac{2}{a+4} - \frac{a-3}{a^2-8a+16} + \frac{a+9}{16-a^2}$

b) $\frac{\frac{x^3}{8y^3} - 1}{\frac{x^2}{4y^2} + \frac{x}{2y} + 1} : \left(\frac{x}{2y} - \frac{2y}{x}\right)$

v) $\left(\frac{a^3+2a^2-a-2}{m+2} : \frac{a^3-2a^2-a+2}{m^2+2m}\right) \cdot \frac{a-2}{a+2}$

g) $\frac{b}{ab-2a^2} - \frac{2}{b^2+b-2ab-2a} \left(1 + \frac{3b+b^2}{b+3}\right)$

III kontrolni zadatak (I - DD grupa)

1. Za kojex je definisan razlomak $\frac{5x+1}{x^2+5x-14}$. 2. Uprostiti a) $\frac{1}{x+y} + \frac{2}{2a+2b} - \frac{x+b}{ax+ay+bx+by}$

b) $\frac{a^3-b^3}{a+2b+\frac{3b^2}{a-b}}$

v) $\frac{x^3+2x^2-x-2}{a+1} \cdot \frac{a^2+a}{x^3-2x^2-x+2} : \frac{x+2}{x-2}$

g) $\left(\frac{x}{x+y} \cdot \frac{y}{y-x} - \frac{2xy}{x^2-y^2}\right) : \left(x+y - \frac{4xy}{x+y}\right)$

III kontrolni zadatak (I - \ \ grupa)

1. Skratiti razlomak $\frac{1-m-m^2+m^3}{m^4-2m^2+1}$. 2. Uprostiti a) $\frac{x}{x-1} - \frac{3x-1}{x-2} + \frac{2x+1}{x^2-3x+2}$ b)

$$\frac{\left(2a - \frac{y^2}{2a}\right) \cdot \left(4a^2 - \frac{8a^3 - 2y^2a}{2a+y}\right)}{1 - \frac{2a}{2a+y}}$$

v) $\frac{2x-1}{x^3-x^2-x+1} : \left(\frac{x}{x^2-2x+1} - \frac{x}{1-x^2} - \frac{2}{x+1}\right)$ g) $\frac{x^2+x-2}{x^2-3x} \cdot \left(\frac{(x+2)^2-x^2}{4x^2-4} - \frac{3}{x^2-x}\right)$.