Підготовка до ДПА в 9 класі з математики
Банк завдань
Тема 2. «Спрощення виразів»

1	$\frac{7c}{c+2}-\frac{c-8}{3c+6}\cdot\frac{84}{c^2-8c}$	16	$\frac{3}{x-2}-\frac{x+2}{x^2-2x+1}\cdot\frac{3x-3}{x^2-4}$
2	$(\frac{2x-1}{x^2+2x+4}+\frac{1}{x-2}+\frac{9x+6}{x^3-8})\cdot\frac{x^2-4}{9}$	17	$4-x+\frac{x^2-12}{x+3}$
3	$\frac{a}{a-b}+\frac{a^2+b^2}{b^2-a^2}+\frac{a}{a+b}$	18	$\left(\frac{2x+1}{x-3}+\frac{2x-1}{x+3}\right)\cdot\frac{x^2-9}{10x^2+15}$
4	$(\frac{a+6}{a^2-4}-\frac{2}{a^2+2a}):\frac{a+2}{a^2-2a}$	19	$\frac{1}{m-4}-\frac{m+4}{m^2-6m+9}:\frac{m^2-16}{m-3}$
5	$\left(\frac{a-2}{a+2}-\frac{a+2}{a-2}\right):\frac{12a}{4-a^2}$	20	$\frac{a^2-4a+4}{a^2+6a+9}\cdot\frac{2a^2-18}{12-6a}$
6	$\frac{y+3}{2y+2}-\frac{y+1}{2y-2}+\frac{3}{y^2-1}$	21	$\left(\frac{a+5b}{a^2-5ab}-\frac{a-5b}{a^2+5ab}\right)\cdot\frac{25b^2-a}{5b^2}$
7	$\frac{b+2}{b^2-2b+1}:\frac{b^2-4}{3b-3}-\frac{3}{b-2}$	22	$\left(\frac{x-2y}{x^2+2xy}-\frac{x+2y}{x^2-2xy}\right):\frac{4y^2}{4y^2-x^2}$
8	$(\frac{5}{x-2}-x-2)\cdot\frac{2-x}{x^2-6x+9}$	23	$\frac{a^2}{ab-b^2}+\frac{b}{b-a}$
9	$\left(\frac{5m+2}{5m-2}-\frac{5m-2}{5m+2}\right):\frac{20m}{12-75m^2}$	24	$\left(\frac{a}{b^2-ab}\right)+\frac{b}{a^2-ab}+\frac{ab}{b+a}$
10	$(\frac{x+3}{6x-30})\cdot\frac{450}{3x+x^2}+\frac{3x}{5-x}$	25	$\frac{x-3}{xy-x^2}-\frac{3-y}{xy-y^2}$
11	$\frac{2x}{x^2-1}:\left(\frac{1}{x^2+2x+1}-\frac{1}{1-x^2}\right)$	26	$\left(\frac{x-1}{x+1}+\frac{x+1}{x-1}\right):\frac{4x^2+4}{x^2-2x+1}$
12	$\left(\frac{a+7}{a-7}-\frac{a-7}{a+7}\right)\frac{14}{a^2-7a}$	27	$\left(\frac{x}{xy-y^2}-\frac{y}{x^2-xy}\right):\frac{x+y}{4xy}$
13	$\frac{a+4}{a^2-6a+9}:\frac{a^2-16}{2a-6}-\frac{2}{a-4}$	28	$\frac{1}{m-4}-\frac{m+4}{m^2-6m+9}:\frac{m^2-16}{m-3}$
14	$\left(\frac{m-2}{m+2}-\frac{m+2}{m-2}\right):\frac{8m}{m^2-4}$	29	$\left(\frac{x-2y}{x^2+2xy}-\frac{x+2y}{x^2-2xy}\right):\frac{4y^2}{4y^2-x^2}$
15	$\left(\frac{2x-3}{x^2-4x+4}-\frac{x-1}{x^2-2x}\right):\frac{x^2-2}{x^3-4x}$	30	$\left(\frac{a}{b^2-ab}+\frac{b}{a^2-ab}\right)\cdot\frac{ab}{b+a}$

31	$\frac{y+3}{2y+2}-\frac{y+1}{2y-2}+\frac{3}{y^2-1}$	38	$\left(\frac{5}{x-2}-x-2\right)\cdot\frac{2-x}{x^2-6x+9}$
32	$\left(\frac{a-2}{a+2}-\frac{a+2}{a-2}\right):\frac{12a}{4-a^2}$	39	$\frac{3a}{a-3}+\frac{a+5}{6-2a}\cdot\frac{54}{5a+a^2}$
33	$\frac{a}{a-b}+\frac{a^2+b^2}{b^2-a^2}+\frac{a}{a+b}$	40	$\frac{2x}{x^2-1}:\left(\frac{1}{x^2+2x+1}-\frac{1}{1-x^2}\right)$
34	$\left(\frac{x+1}{x-1}-\frac{x-1}{x+1}\right):\frac{4x}{x^2-1}$	41	$\left(\frac{a+3}{a-3}-\frac{a-3}{a+3}+\frac{36}{a^2-9}\right):\frac{6}{a-3}$
35	$\left(\frac{x}{x^2-25}-\frac{x-8}{x^2-10x+25}\right):\frac{x-20}{(x-5)^2}$	42	$\left(\frac{a+3}{a^2-1}-\frac{1}{a^2+a}\right):\frac{3a+3}{a^2-a}$
36	$\left(\frac{2a+6}{a^2-1}-\frac{2}{a^2+a}\right):\frac{2a+2}{a^2-a}$	43	$\left(\frac{b+5}{b-5}+\frac{b-5}{b+5}\right):\frac{4b^2+100}{25-b^2}$
37	$\left(\frac{2y+1}{y^2+6y+9}-\frac{y-2}{y^2+3y}\right):\frac{y^2+6}{y^3-9y}$	44	$\left(\frac{2x-3}{x^2-4x+4}-\frac{x-1}{x^2-2x}\right):\frac{x^2-2}{x^3-4x}$
45	$\left(\frac{3x-8}{x^2-2x+4}-\frac{4x-28}{x^3+8}+\frac{1}{x+2}\right)\cdot\frac{x^2-4}{8}$		
46	$\left(\frac{b}{b^2-9}-\frac{b}{b^2-6b+9}\right)\cdot\frac{(3-b)^2}{2b}+\frac{3}{b+3}$		
47	$\frac{a}{a+2}-\left(\frac{a}{a^2-4}+\frac{a}{a^2-4a+4}\right):\frac{2a}{(2-a)^2}$		
48	$\left(\frac{a^2}{a+5}-\frac{a^3}{a^2+10a+25}\right):\left(\frac{a}{a+5}-\frac{a^2}{a^2-25}\right)$		
49	$\frac{4a}{a^2-4}:\left(\frac{a+2}{a-2}-\frac{a-2}{a+2}\right)$, якщо $a=-2013$		
50	$\frac{a^2+2a+4}{3a-4}:\frac{a^3-8}{9a^2-16}$, якщо $a=10$		
51	$\frac{10x-2}{5x}:\left(25x^2-10x+1\right)$, якщо $x=0,4$		
52	$\frac{a^2-9}{6a}\cdot\left(\frac{a-3}{a+3}-\frac{a+3}{a-3}\right)$, якщо $a=117$		
53	$\frac{9b^2+a^2}{a-3b}+\frac{6ab}{3b-a}$, якщо $a=2013, b=2\frac{1}{3}$.		