ВЕЖБИ ОД ОПЕРАЦИИ СО КОРЕНИ И НОРМАЛЕН ВИД НА КОРЕН

2.) а) $\sqrt[4]{25x^2} = \sqrt[2]{5^2x^2} = \sqrt{5x}$

б) $\sqrt[6]{36b^4a^2} = \sqrt[3]{6^2b^4a^2} = \sqrt[3]{6b^2a}$

в) $\sqrt[8]{16x^{12}y^4} = \sqrt[2]{2^4x^{12}y^4} = \sqrt{2x^3y}$

3) Сведи ги корењите во нормален вид:

а) $\sqrt{4xy^3} = \sqrt{2^2xy^3} = \sqrt{2^2xy^2y} = \sqrt{2^2y^2}\sqrt{xy} = 2y\sqrt{xy}$

б) $\sqrt[3]{81x^3y^4} = \sqrt[3]{3^4x^3y^4} = \sqrt[3]{3^3\cdot 3\cdot x^3y^3\cdot y} =$

$= \sqrt[3]{3^3x^3y^3}\cdot\sqrt[3]{3y} = 3xy\sqrt[3]{3y}$

в) $\frac{3y}{2x}\sqrt[4]{32x^7y^5} = \frac{3y}{2x}\sqrt[4]{2^5x^7y^5} = \frac{3y}{2x}\sqrt[4]{2^4\cdot 2\cdot x^4x^3\cdot y^4\cdot y} =$

$= \frac{3y}{2x}\sqrt[4]{2^4x^4y^4}\cdot\sqrt[4]{2x^3y} = \frac{3y}{2x}\,2xy\sqrt[4]{2x^3y} =$

$= 2y^2\sqrt[4]{2x^3y}$

г) $\frac{xy}{3}\sqrt{\frac{18}{xy}} = \frac{xy}{3}\sqrt{\frac{18\cdot x\cdot y}{xy\cdot x\cdot y}} = \frac{xy}{3}\sqrt{\frac{18xy}{x^2y^2}} =$

$= \frac{xy}{3}\cdot\frac{\sqrt{18xy}}{\sqrt{x^2y^2}} = \frac{xy}{3}\cdot\frac{\sqrt{18xy}}{xy} =$

$= \frac{xy}{3}\cdot\frac{\sqrt{2\cdot 3^2\cdot xy}}{xy} = \frac{xy}{3}\cdot\frac{\sqrt{3^2}\cdot\sqrt{2xy}}{xy} =$

$= \frac{xy}{3}\cdot\frac{3\sqrt{2xy}}{xy} = \sqrt{2xy}$

18	2
9	3
3	3
1	

$18 = 2\cdot 3^2$

g) $\frac{xy^2}{2}\sqrt[3]{\frac{8}{x^2y^2}} = \frac{xy^2}{2}\sqrt[3]{\frac{8\cdot x\cdot y}{x^2y^2\cdot x\cdot y}} = \frac{xy^2}{2}\sqrt[3]{\frac{8xy}{x^3y^3}} =$

$= \frac{xy^2}{2}\cdot\frac{\sqrt[3]{8xy}}{\sqrt[3]{x^3y^3}} = \frac{xy^2}{2}\cdot\frac{\sqrt[3]{8xy}}{xy} = \frac{xy^2}{2}\cdot\frac{\sqrt[3]{2^3xy}}{xy}$

$= \frac{xy^2}{2}\cdot\frac{\sqrt[3]{2^3}\sqrt[3]{xy}}{xy} = \frac{xy^2}{2}\cdot\frac{2\sqrt[3]{xy}}{xy} = y\sqrt[3]{xy}$

i) $\frac{6a^2b}{5c^3}\cdot\sqrt[3]{\frac{3c^{10}}{16a^3b^4}} =$

16	2
8	2
4	2
2	2
1	

$16 = 2^4$

$= \frac{6a^2b}{5c^3}\cdot\sqrt[3]{\frac{3c^{10}}{2^4a^3\cdot b^4}} = \frac{6a^2b}{5c^3}\cdot\sqrt[3]{\frac{3c^{10}\cdot 2^2\cdot a^2\cdot b^2}{2^4\cdot a^3\cdot b^4\cdot 2^2\cdot a^2\cdot b^2}} =$

$= \frac{6a^2b}{5c^3}\sqrt[3]{\frac{3c^{10}\cdot 2^2a^2b^2}{2^6a^9b^6}} = \frac{6a^2b}{5c^3}\cdot\frac{\sqrt[3]{3c^{10}\cdot 2^2\cdot a^2b^2}}{\sqrt[3]{2^6a^9b^6}} =$

$= \frac{6a^2b}{5c^3}\cdot\frac{\sqrt[3]{3c^{10}\cdot 2^2a^2b^2}}{2^2a^3b^2} = \frac{6a^2b}{5c^3}\cdot\frac{\sqrt[3]{3c^9\cdot c\cdot 2^2\cdot a^2b^2}}{2^2\cdot a^3b^2} =$

$= \frac{6a^2b}{5c^3}\cdot\frac{\sqrt[3]{c^9}\sqrt[3]{3c\cdot 2^2a^2b^2}}{2^2a^3b^2} =$

$= \frac{6a^2b}{5c^3}\cdot\frac{c^3\sqrt[3]{3\cdot c\cdot 4\cdot a^2\cdot b^2}}{4a^3b^2} =$

$= \frac{6a^2b}{5c^3}\cdot\frac{c^3\sqrt[3]{12a^2b^2c}}{4a^3b^2} =$

$= \frac{3}{5}\cdot\frac{\sqrt[3]{12a^2b^2c}}{2ab} =$

$= \frac{3\sqrt[3]{12a^2b^2c}}{10ab}$