

$$1) \frac{(\sqrt{13} + \sqrt{7})^2}{10 + \sqrt{91}} = \frac{13 + 2\sqrt{13} \cdot \sqrt{7} + 7}{10 + \sqrt{91}} = \frac{20 + 2\sqrt{91}}{10 + \sqrt{91}} =$$

$$= \frac{2(10 + \sqrt{91})}{10 + \sqrt{91}} = \textcircled{2}$$

$$2) \lg \frac{10}{b^3} \quad \lg b = 5 \quad \lg 10 - \lg b^3 =$$

$$1 - 3 \cdot 5 = \textcircled{-14}$$

$$3) 2a \sqrt[3]{a^4} \cdot 3 \sqrt[3]{a^2} = 6a \sqrt[3]{a^6} = 6a^3$$

$$1) \frac{15 \sqrt[5]{28} \sqrt{a} - 7 \sqrt[7]{20} \sqrt[4]{a}}{\sqrt[25]{4} \sqrt{a}} = \frac{15 \sqrt[140]{a} - 7 \sqrt[140]{a}}{2 \sqrt[140]{a}}$$

$$= \frac{4 \sqrt[140]{a}}{2 \sqrt[140]{a}} = \textcircled{4}$$

$$2) \frac{g(2-x)}{g(2+x)} \quad g(x) = \sqrt[3]{x/4-x} \quad |x| \neq 2$$

$$\frac{g(2-x)}{g(2+x)} = \frac{\sqrt[3]{(2-x)/(4-(2-x))}}{\sqrt[3]{(2+x)/(4-(2+x))}} = \sqrt[3]{\frac{(2-x)/(2+x)}{(2+x)/(2-x)}} = \textcircled{1}$$

$$3) ((2x^3)^4 - (x^2)^6) : (3x^{12}) =$$

$$= \frac{16x^{12} - x^{12}}{3x^{12}} = \frac{15x^{12}}{3x^{12}} = \textcircled{5}$$

$$4) ((11a^6b^3 - (3a^2b)^3) : (4a^6b^6)) \quad b=2$$

$$\frac{(11a^6b^3 - 27a^6b^3)}{4a^6b^6} = \frac{16a^6b^3}{4a^6b^6} = \frac{4}{b^3} =$$

$$= \frac{-4}{2^3} = -\frac{4}{8} = \boxed{-0,5}$$