2. Упростить:

а) $\frac{(х^{1/2} )2-(у^{\frac{1}{2}})2}{х^{1/2}-у^{\frac{1}{2}}}= \frac{\left(х^{\frac{1}{2}}-у^{\frac{1}{2} }\right)}{\left(х^{\frac{1}{2}}-у^{\frac{1}{2} }\right)}\left(х^{\frac{1}{2}}+у^{\frac{1}{2} }\right)=х^{\frac{1}{2}}+у^{\frac{1}{2} } $

б) $\frac{b^{1/2}}{(a^{1/2})2-(b^{\frac{1}{2}})2}- \frac{b}{a^{1/2})2+ b^{1/2}}= \frac{b^{\frac{1}{2}} - a^{1/2}+ bb^{1/2} }{(a^{1/2})2-(b^{\frac{1}{2}})2}= \frac{b^{\frac{1}{2}}(1 - a^{\frac{1}{2}}b^{\frac{1}{2}}+ b )}{(a^{1/2})2-(b^{\frac{1}{2}})2}$

в) $\frac{y-16y^{1/2}}{5y^{1/4}+ 20}= \frac{(y^{1/2})2-16y^{1/2}}{5(y^{\frac{1}{4}}+ 4)}= \frac{y^{\frac{1}{2}}(\left(y^{\frac{1}{4}}\right)2- 4^{2})}{5(y^{\frac{1}{4}}+ 4)}= \frac{y^{\frac{1}{2}}( y^{\frac{1}{4}}-4)}{5}$

г) $\frac{х-у}{х^{1/2}+ у^{1/2}}= \frac{\left(х^{\frac{1}{2}}+ у^{\frac{1}{2}}\right)(х^{\frac{1}{2}}- у^{\frac{1}{2}})}{х^{1/2}+ у^{1/2}} = х^{1/2}- у^{1/2}$

3. Выполните действия:

 a) $\frac{4a^{3/10} a^{7/10} b^{3/4}}{6 a^{-7/30} b^{-3/16}}= \frac{2a^{3/10}a^{7/10} b^{3/4} b^{3/16}}{3a^{5/6}}=\frac{2a^{1/6}b^{15/16}}{3}$

б) $\sqrt[12]{a^{11} } : \sqrt[5]{a^{3 } } = \sqrt[12\*5]{a^{11\*5 }} :\sqrt[5\*12]{a^{ 3\*12 } }= \sqrt[60]{\frac{a^{55 }}{a^{ 36 }}}= \sqrt[60]{a^{19}}$

в) $\sqrt[7]{a^{2 }} \sqrt[5]{a^{3 } }= \sqrt[35]{a^{10 }a^{21 }} =\sqrt[35]{a^{31 }}$

4. Вычислить:
$$а) (0,1)^{3\*\left(-\frac{1}{3}\right)} - 2^{-2}\frac{\left(2^{6 }\right)2}{3}- (2^{3})\frac{4}{3}=10-4-16= -10$$

$$б) (0.5)^{4\*0,25} + \frac{1}{4} +5= \frac{1}{2} + \frac{1}{4} +5=5 \frac{3}{4 }$$