For the WEB page

1) Simplify $\sqrt[3]{2a\sqrt[3]{2a\sqrt{2a}}}$.

1) Simplify $\sqrt{2\sqrt[3]{2a}}$.

2) Find the value for the parameter α for which the roots x_1 and x_2 of the equation:
$x^2-(2\alpha-1)x+\alpha=0$
satisfy the condition $x_1=x_2$.

2) Find the value for the parameter k for which one of the roots of the equation:
$x^2+kx+8=0$
is $x=-4$.

3) Solve the exponential equation $\left(2^{x-1}\right)^2=4$.

3) Solve the exponential equation $2^{x-3}\cdot 4^{x+1}=4$.

4) Simplify $\log_a\left(3a^2\sqrt{\frac{3}{a}}\right)$.

4) Simplify $\log_2\frac{8\sqrt[3]{4\sqrt{2}}}{\sqrt[5]{16\sqrt[6]{2}}}$.

5) Simplify $\frac{(\sin\alpha+\cos\alpha)^2}{1-2\sin^2\alpha}-\frac{1+\tan\alpha}{1-\tan\alpha}$.

5) Simplify $\cos^2\alpha\tan^2\alpha+\sin^2\alpha\cot^2\alpha-1$.