**Question1**

Simplify:

a) $\dfrac{x}{x-4} - \dfrac{x^2+6x+9}{x^3+27} \div \dfrac{x^2+7x+12}{x^3-3x^2+9x}$

b) $\dfrac{xy^{-2}-4x^{-1}}{y^{-1}-2x^{-1}}$

c) $\dfrac{x-1+\dfrac{2}{x-4}}{x+3+\dfrac{6}{x-4}}$

**Question2**

Write the number $\dfrac{(\sqrt{-4})i^{23}-\sqrt[3]{-27}}{1+i^{17}}$ in **standard form**.

**Question3**

Find the **conjugate** of $z=\dfrac{\sqrt[3]{-27}-\sqrt{-16}}{\sqrt{-3}\sqrt{-27}}$ and write in standard form.

**Question4**

**TRUE or FALSE ?**

1. The expression $\left(\sqrt{-2}-\sqrt{2}\right)\left(\sqrt{-2}+\sqrt{2}\right)$ is equal to $-4$.

2. The expression $\dfrac{1}{x^{-1}+y^{-1}}$ is equal to $x-y$.

3. The expression $\left(x^{-1}+y^{-1}\right)^{-1}$ is equal to $x+y$.

4. The expression $i^{60}+i^{61}+i^{62}+i^{63}$ is equal to 0.

5. The expression $\left(\dfrac{1+i}{1-i}\right)^{18}$ is equal to $-1$.