Rationalising the Denominator

Rationalize the denominator means to convert the denominator containing square root term into a rational number by finding the equivalent fraction of the given fraction.

For which we can use the identities of the real numbers.

Example: Rationalize the denominator of $\dfrac{7}{(7-\sqrt{3})}$.

Example-19. If $x = 7 + 4\sqrt{3}$ then find the value of $x + \dfrac{1}{x}$

Example 20: Simplify $\dfrac{1}{7+4\sqrt{3}} + \dfrac{1}{2+\sqrt{5}}$