Question 8) $f(x) + f\left(1 - \frac{1}{x}\right) = 1 + x$ — ①

∴ $x \to 1 - \frac{1}{x}$

∴ $f\left(1 - \frac{1}{x}\right) + f\left(1 - \frac{1}{1 - \frac{1}{x}}\right) = 1 + 1 - \frac{1}{x}$

∴ $f\left(1 - \frac{1}{x}\right) + f\left(\frac{1}{1-x}\right) = 2 - \frac{1}{x}$ — ②

∴ ① - ②

∴ $f(x) - f\left(\frac{1}{1-x}\right) = x + \frac{1}{x} - 1$ — ③

∴ $x \to \frac{1}{1-x}$

∴ $f\left(\frac{1}{1-x}\right) - f\left(\frac{1}{1 - \frac{1}{1-x}}\right) = \frac{1}{1-x} + 1 - x - 1$

∴ $f\left(\frac{1}{1-x}\right) - f\left(1 - \frac{1}{x}\right) = \frac{1}{1-x} - x$ — ④

∴ ③ + ④

∴ $f(x) - f\left(1 - \frac{1}{x}\right) = \frac{1}{x} + \frac{1}{1-x} - 1$ — ⑤

∴ ⑤ + ①

∴ $2f(x) = x + \frac{1}{x} + \frac{1}{1-x}$

$\boxed{f(x) = \frac{1}{2} \cdot \left[x + \frac{1}{x} + \frac{1}{1-x} \right]}$