

$$\begin{aligned}
 x = 1 &\rightarrow f(1) = 9 - 9 + 1 = 1 \\
 x = 2 &\rightarrow f(2) = 4 - 9 + 1 = -4 \\
 x = -1 &\rightarrow f(-1) = 1 + 9 + 1 = 10
 \end{aligned}$$

$$\frac{f(1) + 5}{(-1)^2} = 6$$

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$$\begin{aligned}
 x = 1 &\rightarrow f(1) = 1 + 1 = 2 \\
 x = 2 &\rightarrow f(2) = 4 + 1 = 5 \\
 x = -2 &\rightarrow f(-2) = 4
 \end{aligned}$$

$$\frac{f(1) - f(2)}{1 - 2} = \frac{2 - 5}{-1} = 3$$

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$$\frac{f(f(1)) - f(f(2))}{f(1) - 2} = \frac{f(2) - f(5)}{1 - 5} = \frac{4 - 26}{-4} = 5$$

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$$\begin{aligned}
 x = \sqrt{2} - 2 &\rightarrow \frac{(\sqrt{2} - 2)^2 + f(\sqrt{2} - 2) + 9}{(\sqrt{2} - 2)^2 + f(\sqrt{2} - 2) + 5} = \frac{2 + 2 - 2\sqrt{2} + 2\sqrt{2} - 8 + 9}{2 + 2 - 2\sqrt{2} + 2\sqrt{2} - 8 + 5} = \frac{1}{1} = 1
 \end{aligned}$$

$$f(2) = \frac{4 + 8 + 9}{4 + 8 + 5} = \frac{21}{17}$$

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$$f(\sqrt{x}) = \sqrt{x}^2 + \frac{1}{\sqrt{x}^2} = x + \frac{1}{x} \rightarrow \left(x + \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} + 2$$

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

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