

Question 22946

$$f(x) = x^2 + 5x - 10$$

1. $f(a) = a^2 + 5a - 10$

2. $f(a+h) = (a+h)^2 + 5(a+h) - 10 = a^2 + 2ah + h^2 + 5a + 5h - 10$

3.

$$\frac{f(a+h) - f(a)}{h} = \frac{a^2 + 2ah + h^2 + 5a + 5h - 10 - (a^2 + 5a - 10)}{h} = \frac{2ah + h^2 + 5h}{h} = 2a + h + 5 .$$