

Answer on Question #84207 – Math – Algebra

A leading brokerage firm charges a 6% commission on gold purchases in amounts from 500 to 3000. For purchases exceeding 3000, the firm charges 2% of the amount purchased plus 120. Let x denote the amount of gold purchased (in rupees) and let $f(x)$ be the commission charges as a function of x .

Question

i) Describe $f(x)$. What is the domain of $f(x)$?

Solution

$$x > 3000: f(x) = 0.02x + 120$$

$$500 \leq x \leq 3000: f(x) = 0.06x$$

The domain of $f(x)$ is $[500, \infty)$.

Question

ii) Find $f(1000)$ and $f(5000)$.

Solution

$$f(1000) = 0.06 \cdot 1000 = 60$$

$$f(5000) = 0.02 \cdot 5000 + 120 = 220.$$

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