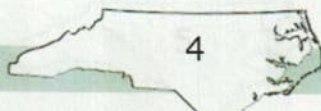(A)

CR—

The function below determines the amount of yearly tax a person must pay, which is based on the amount of money they earn each year.

$$t(x) = \begin{cases} 0.10x & ,0 \leq x < 12{,}750 \\ 0.07(x - 12{,}750) + 765 & ,12{,}750 \leq x < 60{,}000 \\ 0.0775(x - 60000) + 4{,}072.50 & ,x \geq 60{,}000 \end{cases}$$

a. Describe the domain and range of the tax function in context.

b. Identify the domain and range of t(x).

c. Based on the function provided, explain how the amount of tax owed changes if your earnings increase from $10,000 to $50,000.

4. If the tax payer has an earning between 0 and $12,750, he uses the function of .10X to find the amount of taxes owed. The domain of $0 \leq X < 12750$ represents this on the graph.

- If the tax Payer has an earning between $12750 \leq X < 60000$, the function $0.07(x - 12750) + 765$ represents the function. The domain $12750 \leq X < 60000$ is shown on the graph.

- If the tax payer has an earning $X \geq 60000$, he has to use the function $0.0775(x - 60000) + 4072.5$ to find the taxes to pay. $X \geq 60000$ represents the graph.

- The Range can go on positively forever, as the income increases.

b. Domain $= (0, \infty)$

Range $= (0, \infty)$

c. i) $0 \leq 10000 < 12750$ ✓

$y = .10(10000)$

$y = \$1,000$ in taxes

ii) $12750 \leq 50000 < 60000$ ✓

~~$0.07 (10$~~

$y = 0.07(50000 - 12750) + 765$

$y = 3372.5$