$x^2 = 54$ Mg. Akpanka.

1. The Budget constraint: The document uses a personal example to illustrate how individuals face scarcity with a fixed monthly income of $100 to spend only on gasoline [$2 per gallon and DVDs [$10 each] a person cannot buy everything they want. The budget line shows all the possible combination of these two goods that can be purchased if the entire income is spent.

2. The budget line graph:

- Points on the line [like C_1 to C_6] represent combination where all income is spent.
- Points below the line are attainable and mean some income is left over.
- Points above the line (like C_7) are unattainable because they exceed the available income.

3. Shift in the budget line: The budget line changes with income and prices.

- outward shift: caused by an increase in income or a decrease in prices of both goods.
- Inward shift :- caused by a decrease in income or an increase in the prices of both good [inflation]

4. opportunity cost:
The budget line visually demonstrate opportunity cost - the value of the next best alternative given up when making a choice.

- Moving along the budget line from one point to another shows the Trade off b/w the two goods

In the example the opportunity get cost of one DVD is always 5 gallon of gas. This is determined by the ration of their prices [$10/2$ = 5]

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- crucially opportunity cost depends on the relative price of goods not their absolute money cost if both prices double the opportunity cost remains the same.