



TEST YOURSELF: PRODUCTION

Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer.

Adam Smith



What are factors of production?



Factors of production are the resource inputs – land, labor, capital and entrepreneurship – used to produce goods and services.



What is the
production function?

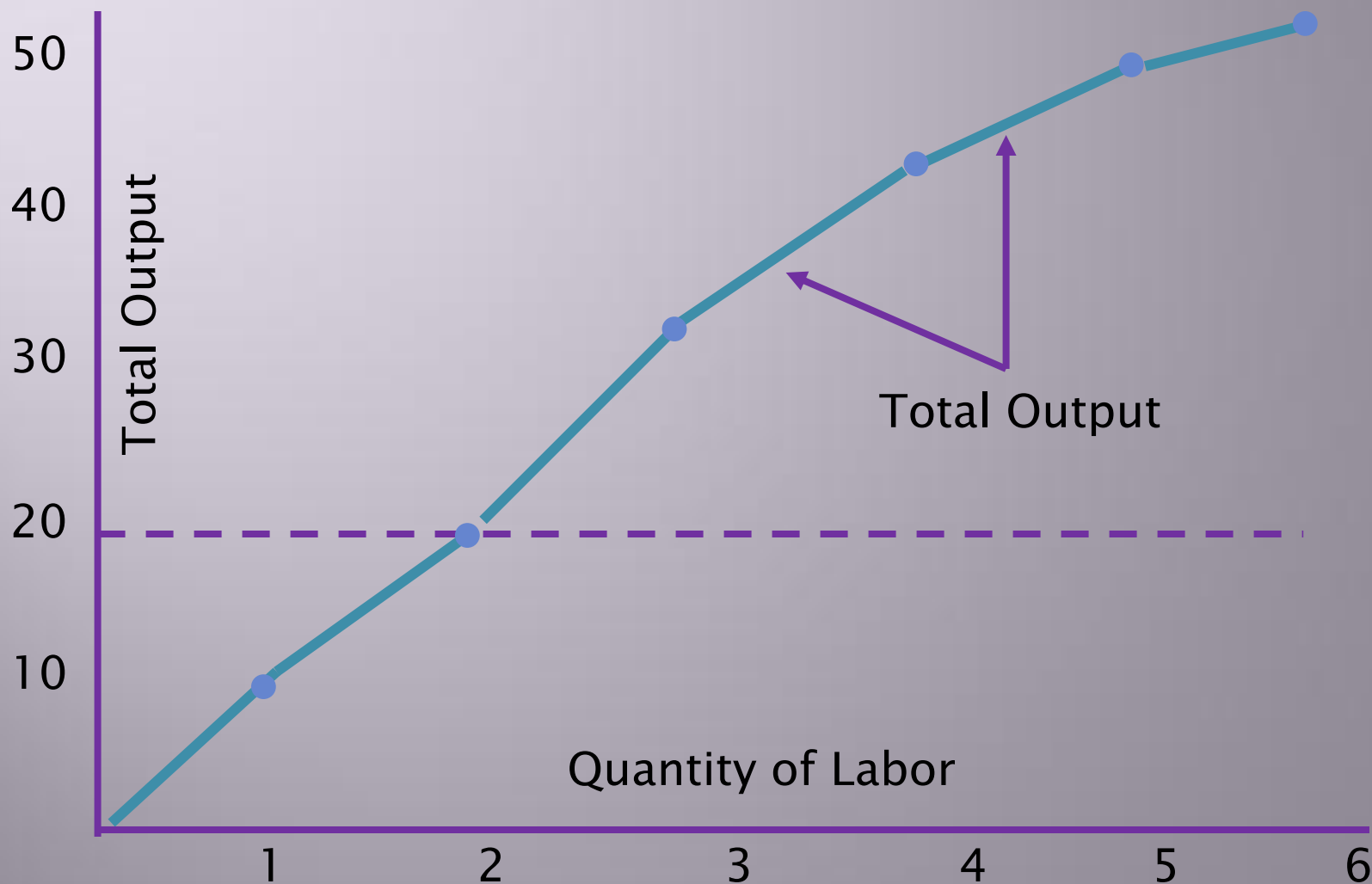


The **production function** is the relationship between the maximum amount of outputs a firm can produce at various quantities of inputs.

Technological advances make possible *more* output from a given quantity of inputs.



Chart: Production Function





How do we define productivity?





Productivity is defined as output per unit of input ... for example, output per labor hour or output per acre of land.

The productivity of any factor of production depends on the amount of other resources available to it.

The production function represents maximum efficiency.



What is efficiency?





Efficiency is the maximum output of a good from the resources used in producing it.



What is the opportunity cost to
inefficiency?



There is an opportunity cost to inefficiency. When production is inefficient, society either gets fewer goods than it should, or gives up too many other goods and services in order to get the good.



What is the variable input that determines how much output we get from our fixed inputs?



Labor is the variable input that determines how much output we get from our fixed inputs (land and capital). In general, as the amount of labor used increases, output also increases.



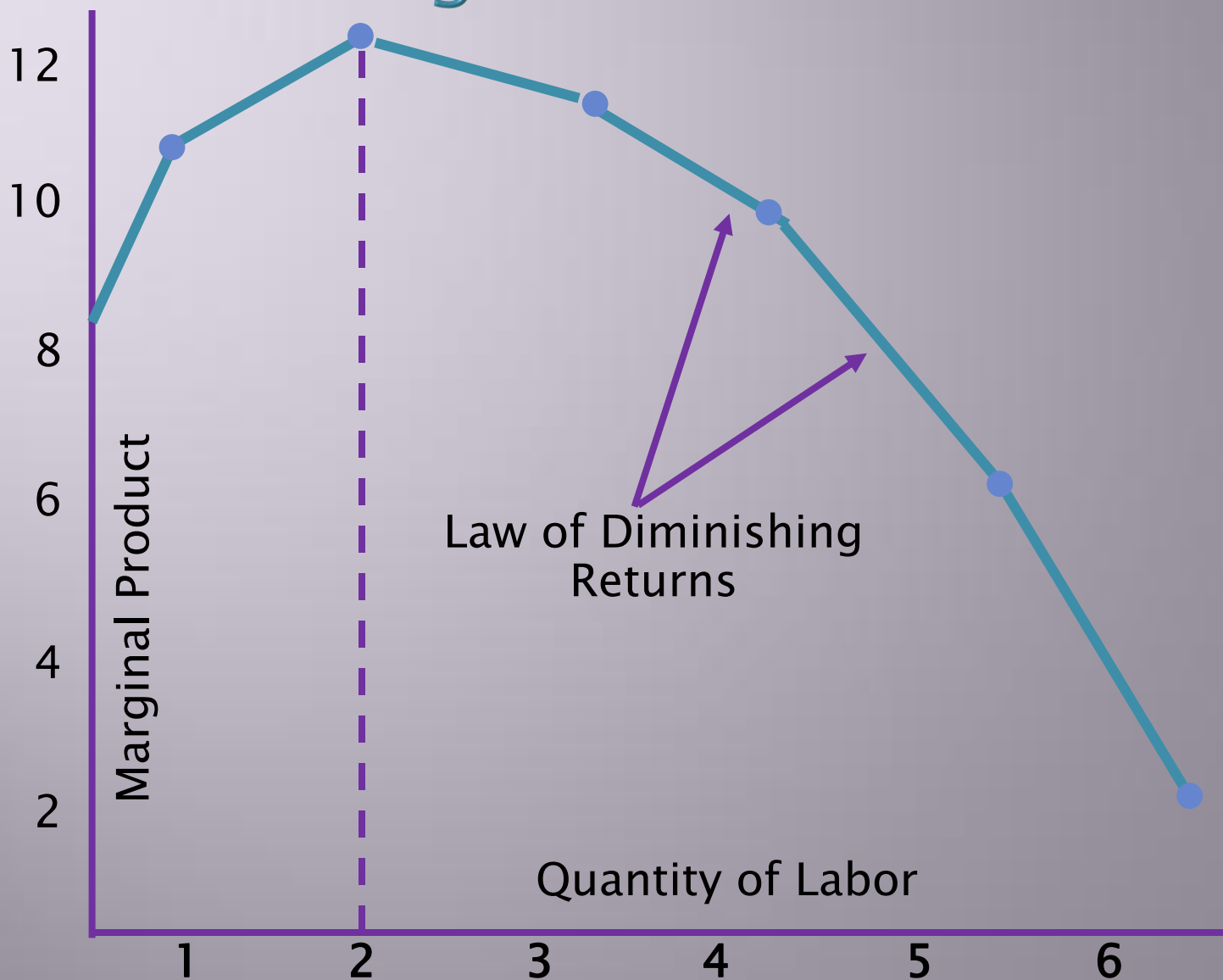
What is
marginal product?



Marginal product (or marginal physical product) is the change in total output produced by adding one more unit of a variable input, with all other inputs used held constant.



Chart: Marginal Product Curve





What is the law of diminishing returns?





The **law of diminishing returns** is the principle that beyond some point the marginal product decreases as additional units of a variable resource are added to a fixed factor.

Since the law of diminishing returns includes the concept of fixed inputs, it must be a short-run concept.

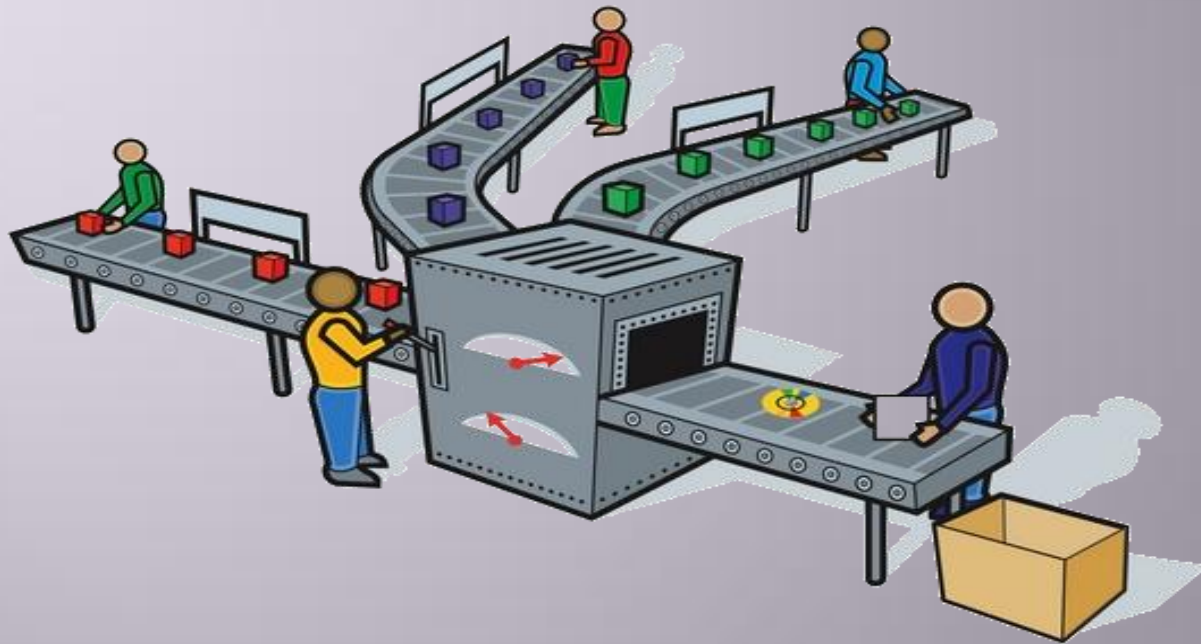


What is the most desirable rate of output?



The most desirable rate of output is the one that maximizes total profit.

How did you do?! If you didn't do as well as you'd like, review the margin notes and presentations and test yourself again.



CONTINUED IN TEST YOURSELF:
COST