ECONOMIC ISSUES THAT CAN BE SOLVED WITH THE HELP OF INTEGRAL

Avezov Alijon Khairulloyevich
Senior teacher of the Department of Mathematical Analysis of
Bukhara State University
a.x.avezov@buxdu.uz
Jonixonova Sevinch Jonibek qizi
Student of the direction of mathematics education of
Bukhara State University

Annotation: take the flour particular cases the detection of the economic process, to learn the general qonuniyat keltirib waspaid to. The process is characterized by specific integrated fundamental forces of physics. Thus, the link between integrated variables to be expressed in the form of the process is clearly understood.

This article describes the practical issues are to be applied after the application of clear and specific integrated integrated economic issues which came to where their charging methods charging and shown and the economic meaning of the right qo'lanishi integrated integrated in the economy of the accountat the tariff thinking about some economic understanding ofthe world and has been doing several issues cited.

Key words: anintegrated mask, labor productivity, size, quantity of product, stocks of goods, disko, the volume of production of the product, Kobba-Douglas function, the curve line lorens, consumer achievement, productivity function.

1. Clearly integrated in the economy of applied.

1) As it is known, labor productivity workday during the variables is the amount of. Labor productivity $y = f(x)$ function with the expression noticed, this x work

of day start, which is the time interval, $f(x)$ while the time same the refrigerator (at the moment) labor productivity means.

Labor productivity of the work of the day and the 4thhour in the size calculation of the issue of put have [1-24].

Time (at 3.4) the interval most of the great length of Δx the range , you will be the $f(x)$ function of this small range of the change say if you work out a drink the productivity of the $f(x)\Delta x$ sum equal is. In so doing, work the day of the 4 thour of work, the production of labor productivity

$$\lim_{\Delta x \to 0} \sum_{3}^{4} f(x)\,\Delta x = \int_{3}^{4} f(x)dx$$

Equality by characterized.

2) The product warehouse to time, in the unity of which come products, the amount $f(x)$ and the product to the warehouse come pouring out and started the time unit x is, x from the $x+\Delta x$ time on the range of a warehouse $f(x)\Delta x$ unit, the product comes. Therefore, to the warehouse the product continuously came stood, then the goods of the stocks

$$\int_{0}^{x} f(s)ds$$

With characterized.

3) Engineering industry of any sort in the machines work will be out of and annual work out of the change a to be equal if it is, x the machine work was produced the year is.

Of time t in the refrigerator (at the moment), lathes number (their work out that will take).

$$\int_{0}^{t} adx = [ax]_{0}^{t} = at$$

will be. You are the product work out the size progression arithmetic on which they grow is that

$$f(x) = a_0 + a_1 x$$

be, lathes number of

$$\int_0^t (a_0 + a_1 x)dx = \left[a_0 x + \frac{a_1 x^2}{2} \right]_0^t = a_0 t + \frac{a_1 t^2}{2}$$

the organization is.

4) Annual income, t is a time function $D = f(x)$ is. Present (percent) norms of the share i is, interest on adding continuing is. The income t year, which is a discount of the size of the find. Discount that the end of the total funds with initial funds between the differences is said.

This amount calculation for, time range t select n three equal pieces we will divide. Of the time much too small a Δt range in the income, change that $f(t)\Delta t$ to equal, make it get to you. Continuous on added, which is a percentage discount in income as follows, is:

$$\frac{f(t)\Delta t}{e^{it}} = f(t)\Delta t e^{-it}.$$

$(0,t)$ Time on the range of discount income amount

$$\lim_{\Delta t \to 0} \sum_0^t f(t)e^{-it}\Delta t = \int_0^t f(t)e^{-it}dt$$

will be.

Private in case, annual income the change is, that $f(x) = a$ is, a discount gain

$$d = \int_0^t ae^{-it}dt = a\int_0^t fe^{-it}dt = a\left[-\frac{1}{i}e^{-it} \right]_0^t = \frac{a}{i}\left(1 - e^{-it}\right)$$

will be.

2. Lekarzem with integrated q where some economic issues are to beremoved.

$z = f(x)$ with the passage of time changes in the expression of how the production function is yielding. Without it $[t_1, t_2]$, the volume of the product produced in the time interval $Q(t_1, t_2)$ is calculated by the following formula:

$$Q(t_1, t_2) = \int_{t_1}^{t_2} f(t)dt \qquad (2.1)$$

1-Issue. Productivity after the implementation of new technology to change the production $z = 32 - 2^{-0,5t+5}$ function is given here t - in the months represents the change of time. After the introduction of new technology, calculate the volume of the product produced:

a) The first month
b) The third month
c) The sixth month
d) In the last month of the year

Is to take off. (2.1) according to the formula you can make it here:

$$Q(t_1, t_2) = \int_{t_1}^{t_2} (32 - 2^{-0,5t+5})dt = 32(t_2 - t_1) + \frac{64}{\ln 2}(2^{-0,5t_2} - 2^{-0,5t_1}).$$

At the time it

$$Q(0;1) = \int_0^1 (32 - 2^{-0,5t+5})dt = 32(1-0) + \frac{64}{\ln 2}(2^{-0,5} - 2^0) = 4,95;$$

$$Q(2;3) = \int_2^3 (32 - 2^{-0,5t+5})dt = 32(3-2) + \frac{64}{\ln 2}(2^{-0,5\cdot 3} - 2^{-0,5\cdot 2}) = 18,48;$$

$$Q(5;6) = \int_5^6 (32 - 2^{-0,5t+5})dt = 32(6-5) + \frac{64}{\ln 2}(2^{-0,5\cdot 6} - 2^{-0,5\cdot 5}) = 27,22;$$

$$Q(11;12) = \int_{11}^{12} (32 - 2^{-0,5t+5})dt = 32(12-11) + \frac{64}{\ln 2}(2^{-0,5\cdot 12} - 2^{-0,5\cdot 11}) = 31,4.$$

Comparing the results obtained, the introduction of new production technology, mainly in the first half of the year gives away [20-33].

On the basis of the change of production capacity depends on various factors, for example, Kobba-Douglas function depends on the institution. In this case $f(t)$ productivity is characterized in the form of multiples of three ko'paytuvchi:

$$f(t) = a_0 A^{\alpha}(t) L^{\beta}(t) K^{\gamma}(t), \qquad (2.2)$$

here are $A(t), L(t), K(t)$ the features respectively, the nature resources, labor and capital spending, $a_0, \alpha, \beta, \gamma$ how is the number.

2-Issue. You Kobba-Douglas function

$$A(t) = e^t,\ L(t) = t+1,\ K(t) = 100 - 3t,\ a_0 = 1,\ \alpha = 1,\ \beta = \gamma = 0{,}5$$

find the size of the product used in production for 5 years (here, t represents the change in the time of the year.:

Is to take off. (2.1) in the formula $f(t)$ funkisyani (2.2) formula put, you can make it here:

$$Q(0;5) = \int_0^5 e^t (t+1)(100-3t)dt = \int_0^5 e^t (-3t^2 + 97t + 100)dt.$$

integrated support many pieces twice in the series, here we have:

$$Q(0;5) = e^t(-3t^2 + 97t + 100)\Big|_0^5 - (97 - 6t)e^t\Big|_0^5 - 6e^t\Big|_0^5 = 64825\ .$$

Answer. Q=64825

The uneven distribution of income among the population representing the process $y = f(x)$ depending on function, and here y - x removable by the poor population income. Lorens line graph the curve this function is called.

$p = f(x)$ - which is how the product D line and the demand curve $p = g(x)$ - S a curve line offer. Here p - the cost of the product, x demand (offer) size. (x_0, p_0) appreciate the balance through the character of the spot market.

x_0 the amount of the product p_0 with the price of sale after the profit $x_0 \cdot p_0$ is equal to. The price the $p_0 = f(0)$ price p_0 the price falls (according to demand), the following benefits will be integrated with it at the time.

$$\int_0^{x_0} f(x)dx$$

Consumers

$$C = \int_0^{x_0} f(x)dx - p_0 x_0$$

lots of money for the privilege of identifying and managing identity is called a consumer.

Similar

$$P = p_0 x_0 - \int_0^{x_0} f(x)dx$$

the amount of business the achievement is called [2-32].

3- Issue. The production of the firm funktsiyaci to the product requirements are as follows:

$$p = 134 - x^2$$

If you balance the cost of 70 of the consumer, we should seek the privilege to be counted?

To take off.

a) p_0=70, x_0 to a , we find:

$$70 = 134 - x^2$$
$$x^2 = 64; \quad x_0 = 8$$

Now the consumer is winningg'i we considered:

$$\int_0^{x_0} f(x)dx - p_0 x_0 = \int_0^{8} \left(134 - x^2\right)dx - 70 \cdot 8 = 341{,}3$$

Answer. S=341,3 roll

4- Issue. Daily business productivity if the production function is given as follows:

$$f(t) = -0{,}0033\,t^2 - 0{,}089\,t + 20{,}96$$

A year of enterprises (258 working days) to find the size of the product developed

Is to take off. We developed a product for the amount of daily find:

$$\int_0^8 f(t)dt = \int_0^8 \left(-0{,}0033t^2 - 0{,}089t + 20{,}96\right)dt = 164{,}269$$

Now consider the amount of product a year:

$$Q = 164{,}269 \cdot 258 \approx 42381{,}402$$

Answer. Q=42381 product unit.

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