

Problem:1

3 Employees of an Insurance co-pressed 600 polices per week. They worked 5 days in a week and 8 hours per day in the company. Find their labour productivity.

Solution:

We Know,

$$\text{Labour Productivity} = \frac{\text{Input}}{\text{Output}}$$

Given;

Output=600 Insurance policies in a week

Input=1 week ×5 days ×8 hours×3 employers =120 hours

$$\text{Labour Productivity} = \frac{600 \text{ Policies}}{120 \text{ Hours}}$$

=5 Polices/hour

$$\text{Individually ; } P = \frac{5 \text{ Policies}}{3 \text{ Hours}}$$

=1.67 polices/hour

Ans: 1.67 policies/hour

Problem:2

A group of workers processed 400 units of product at a certain period of time which standard price are \$10 each. The accountant reported that actual cost of production was \$1000 for labour; \$400 materials; \$200 for transport; \$50 for advertisement; \$50 for overhead cost. Find the multi-factor ratio.

Solution:

We Know,

$$\text{Productivity} = \frac{\text{Input}}{\text{Output}}$$

Given;

$$\text{Output} = (\$400 \text{ units} \times \$10 \text{ each}) = \$4000$$

Input = (Labour Cost + Material Cost + Transport Cost + Overhead Cost + Advertisement Cost)

$$= (\$1000 + \$400 + \$200 + \$50 + \$50)$$

$$= \$1700$$

$$\text{Productivity} = \frac{\$4000}{\$1700}$$

$$= 2.35$$

Ans: 2.35

Problem:3

Student's tuition fee at Oxford University is \$100 per semester per credit hour. The U.K states supplements the tuition fee dollar to dollar. Average class size a course in 50 students and per course in 3 credit hour.

Labour credits are \$4000 per class; materials cost are \$20 per student; (Exam, Class, Presentation, Assignment, tour, Field work etc) are \$25000. From the information find the multi-factor ratio.

Solution:

We Know,

$$\text{Productivity} = \frac{\text{Input}}{\text{Output}}$$

Given;

(1 class + 1 Course); (3 credit × 50 students)

$$= (\$100 + \$100) = 150 \text{ hour}$$

$$= \$200$$

$$\text{Output} = (\$200 \times 150) = \$30000$$

Input = (Labour credit + Materials cost + other cost)

$$= \{ \$4000 + (20 \times 50) + \$25000 \} = \$30000$$

$$\text{Productivity} = \frac{\$30000}{\$30000}$$

$$= 1$$

Ans: 1.

Problem 4:

Let Income of Mr. "X" increase from 300TK to 500TK and the demand of him/her also increase from 400 unit to 600 unit .Find out income Elasticity (I.E)

Solution:

$$\text{Income Elasticity} = \frac{\text{Changing of Demand}}{\text{Demand Old}} \cdot \frac{\text{Change of Income}}{\text{Income Old}}$$

Or,

$$I.E = \frac{\Delta D}{D(O)} \cdot \frac{\Delta I}{I(O)}$$

$$\Delta D = (600-400)\text{unit} = 200 \text{ unit}$$

$$\Delta I = (500-300)\text{TK} = 200\text{TK}$$

$$D(O) = 400 \text{ unit}$$

$$I(O) = 300\text{tk}$$

$$= \frac{200}{400} \cdot \frac{200}{300}$$

$$= \frac{200}{400} \times \frac{300}{200}$$

$$= \frac{3}{4}$$

$$= 0.75 \text{ (Ans.)}$$

Problem 5:

Price of "X" Product is TK.100 and it's demand is 1000 prices. Demand increase of 'X' from 1000Tk. To 1500Tk, When the price of 'Y' increases from 2000 Tk. to 3000 Tk. Find Cross Elasticity(C.E).

Solution:

$$\text{Cross Elasticity (C.E)} = \frac{\text{Change of Demand 'X' Product}}{\text{Demand(Old)}}$$

$$\text{Cross Elasticity(C.E)} = \frac{\text{Change of Demand 'Y' Product}}{\text{Demand (old)}}$$

$$\text{Cross Elasticity} = \frac{500}{1000} \div \frac{1000}{2000}$$

$$= \frac{500}{1000} \times \frac{1000}{2000} = 1 \text{ (Ans.)}$$