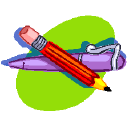
**Diminishing Returns**

* What is meant by Diminishing Returns?
* Practical examples of Diminishing Returns**.**



* To illustrate the concept of Diminishing Returns we are going to do a short exercise.
* **We will record the amount of time it takes for a group of people to do a simple task. The task involves** drawing as many smiling faces as possible in 1 minute **on a piece of paper. There will be three pens available to the group for this task.**
* At first there will be 1 person available to do this task.
* A second person will be added and the task is repeated.
* Additional people are added and the task is timed. Everybody in the groups must draw at least 2 smiling faces**.**

|  |  |  |
| --- | --- | --- |
| People Involved (Labour) | **Number of Pens (Capital)** | **Number of Smiling Faces drawn** |
|  | **2** |  |
|  | **2** |  |
|  | **2** |  |
|  | **2** |  |
|  | **2** |  |

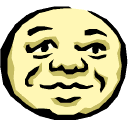
1. What do you notice about the time taken to complete the task as more people are added?

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1. **Why** do you think this is the case?

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1. Can you illustrate the concept below on the diagram below?



Number of People

Number of Smiling Faces

1. What is the concept being demonstrated here?

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1. On the diagram on the next page illustrate the concept of Diminishing Returns by drawing the Marginal and Total Product when a firm produces a product.

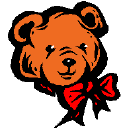


Units of Labour

Total,

Marginal

Product



1. Why is Diminishing Returns a **‘Short-Run’ concept?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the difference between the **short-run** and the **long-run?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Which factors are often fixed in the** short-run**?**

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1. Complete the table below, draw a graph to illustrate TP, MP and AP and identify the point where the firm experiences Diminishing Returns**.**

|  |  |  |  |
| --- | --- | --- | --- |
| No. of workers | **Total number of Trainers (Total product)** | **Average number of Trainers (Average Product)** | **Additional Trainers (Marginal product)** |
| 0 | **0** |  |  |
|  |  |  |  |
| 1 | **10** |  |  |
|  |  |  |  |
| 2 | **22** |  |  |
|  |  |  |  |
| 3 | **36** |  |  |
|  |  |  |  |
| 4 | **52** |  |  |
|  |  |  |  |
| 5 | **66** |  |  |
|  |  |  |  |
| 6 | **78** |  |  |
|  |  |  |  |
| 7 | **86** |  |  |
|  |  |  |  |
| 8 | **90** |  |  |
|  |  |  |  |
| 9 | **92** |  |  |
|  |  |  |  |
| 10 | **92** |  |  |
|  |  |  |  |
| 11 | **88** |  |  |

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Can you explain why Total Product actually falls when the 11th worker is employed?

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1. Using the above information, illustrate on a diagram the typical the short-run average and marginal cost curves of a firm.

Average/

Marginal

Cost

Output