

OIL CONSERVATION COMMISSION

P. O. BOX 2045

HOEBBS, NEW MEXICO

DATE September 5, 1957

TO:

~~Magnolia Pet. Co.~~
Box 2406
Hobbs, New Mexico

Gentlemen:

In accordance with the provisions of Commission Order No. R 1042,
your State M #5 34-17-35, which
Lease Well No. S-T-R,
is currently listed in the undesignated section of the oil proration
schedule, will appear in the Vacuum Seven Rivers Pool in
the October Proration schedule.

Please file Form C-110 showing the change in pool designation of
this well.

Yours very truly,

OIL CONSERVATION COMMISSION

R. F. Montgomery
Proration Manager

RFM/eb

Mathematical Induction

1. Base Case

2. Inductive Step

Assume $P(k)$ is true for some $k \geq 1$. We will show that $P(k+1)$ is true.

Let $n = k + 1$. We need to show that $P(n)$ is true.

By the inductive hypothesis, $P(k)$ is true.

Therefore, $P(k+1)$ is true.

By the principle of mathematical induction, $P(n)$ is true for all $n \geq 1$.

Q.E.D.

Example: Prove that $1 + 2 + \dots + n = \frac{n(n+1)}{2}$ for all $n \geq 1$.

Let $P(n)$ be the statement $1 + 2 + \dots + n = \frac{n(n+1)}{2}$.

Base Case: $P(1)$ is true because $1 = \frac{1(1+1)}{2} = 1$.

Inductive Step: Assume $P(k)$ is true for some $k \geq 1$.

We need to show that $P(k+1)$ is true.

By the inductive hypothesis, $1 + 2 + \dots + k = \frac{k(k+1)}{2}$.

Then,

$1 + 2 + \dots + k + (k+1) = \frac{k(k+1)}{2} + (k+1)$

$= \frac{k(k+1) + 2(k+1)}{2}$

$= \frac{(k+1)(k+2)}{2}$

Thus,

$1 + 2 + \dots + (k+1) = \frac{(k+1)(k+2)}{2}$

Therefore,

$P(k+1)$ is true.

By the principle of mathematical induction, $P(n)$ is true for all $n \geq 1$.

Q.E.D.