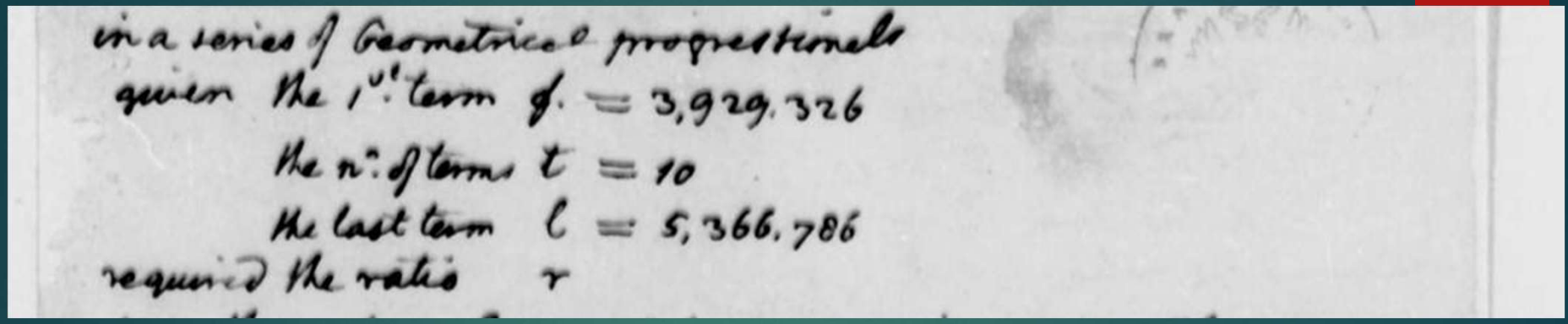
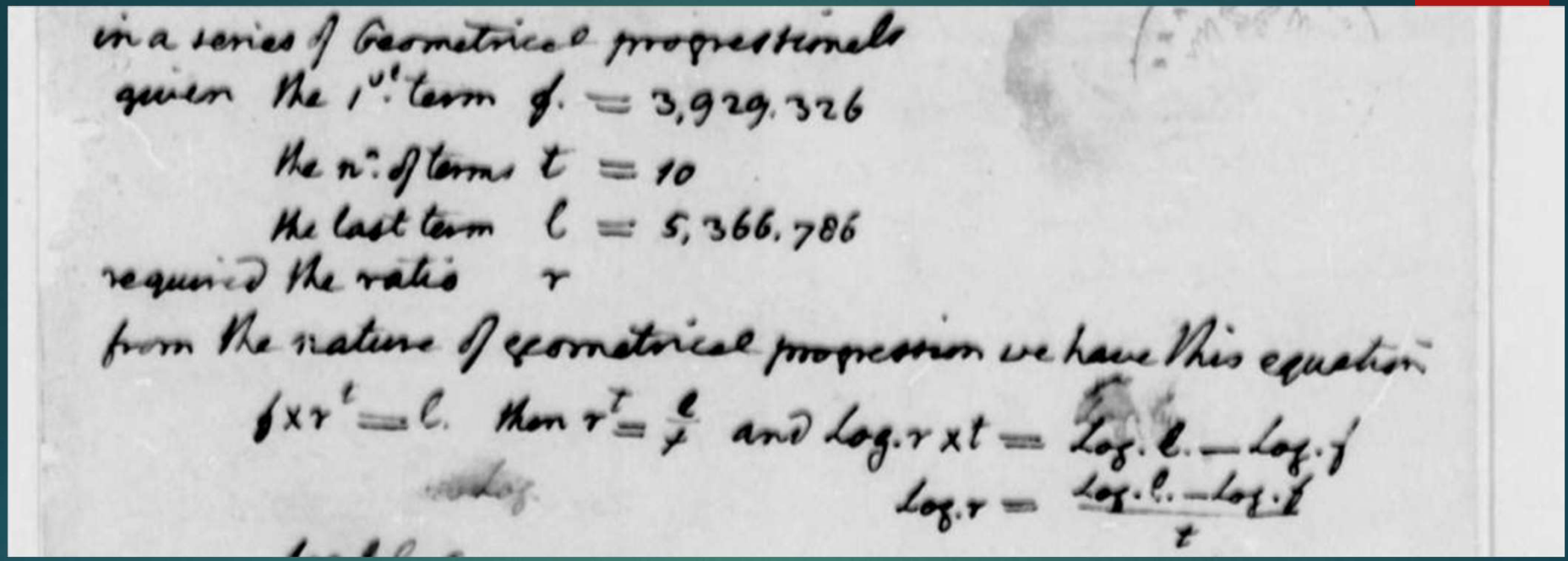
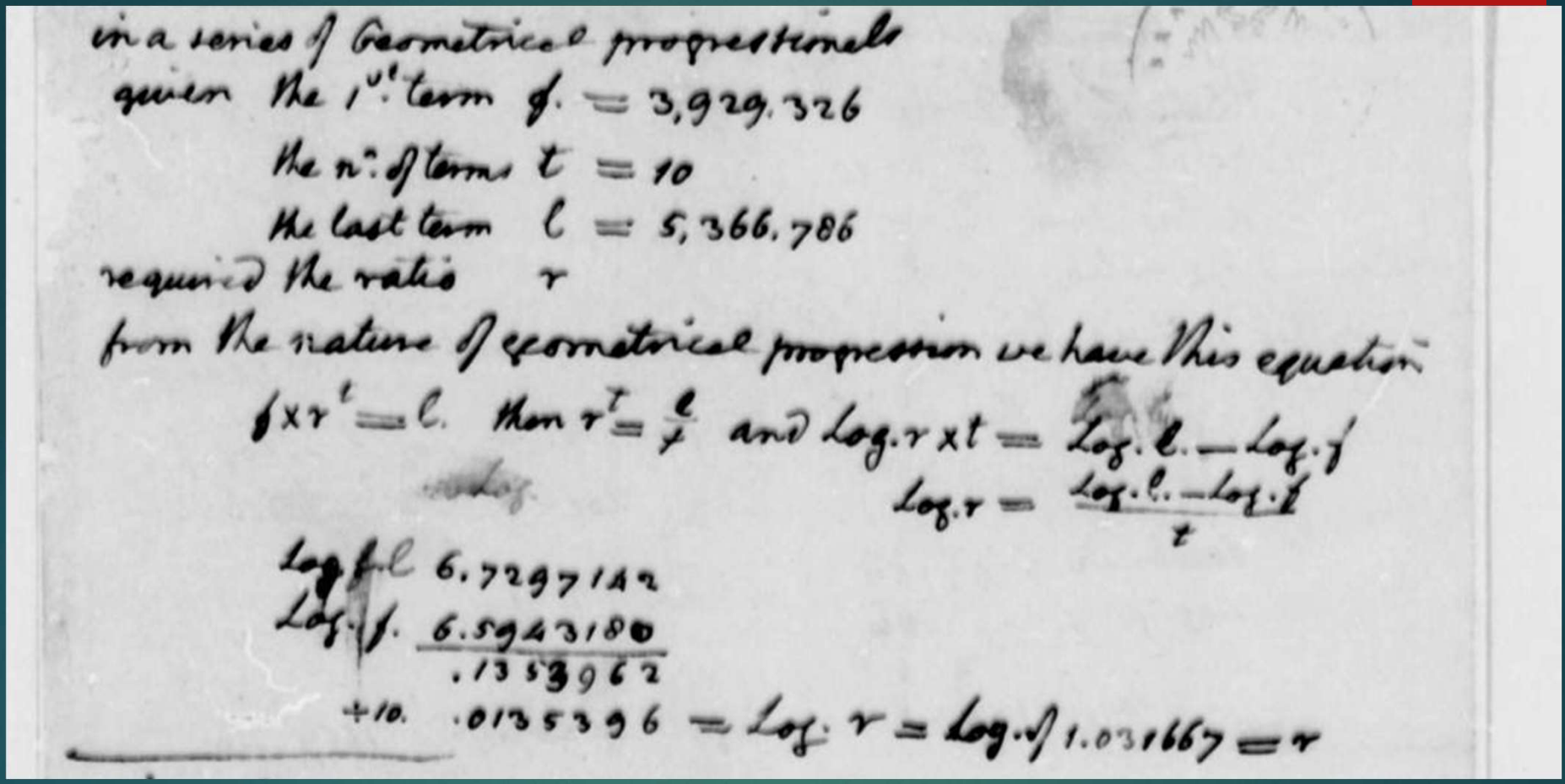

in a series of Geometrical progressionals
given the 1st. term f. = 3,929.326
the nr. of terms t = 10
the last term l = 5,366.786
required the ratio r

Given the values above, what could the variables present?

How would you determine the value of r ?


in a series of Geometrical progressionals
given the 1st. term f. = 3,929.326
the nr. of terms t = 10
the last term l = 5,366.786
required the ratio r
from the nature of geometrical progression we have this equation
$f \times r^t = l$. then $r^t = \frac{l}{f}$ and $\text{Log.} r \times t = \text{Log.} l - \text{Log.} f$
$\text{Log.} r = \frac{\text{Log.} l - \text{Log.} f}{t}$

# What properties of logs are being used here ?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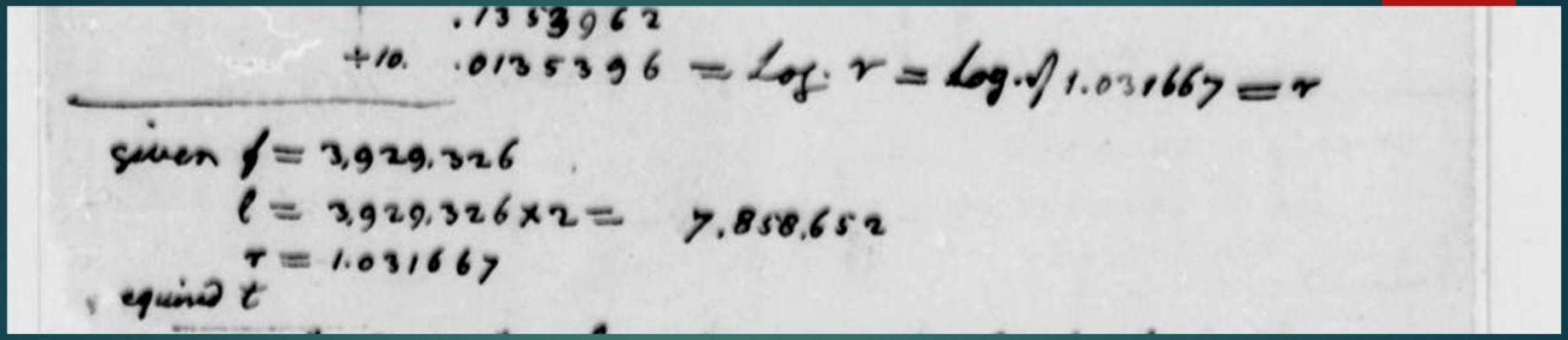
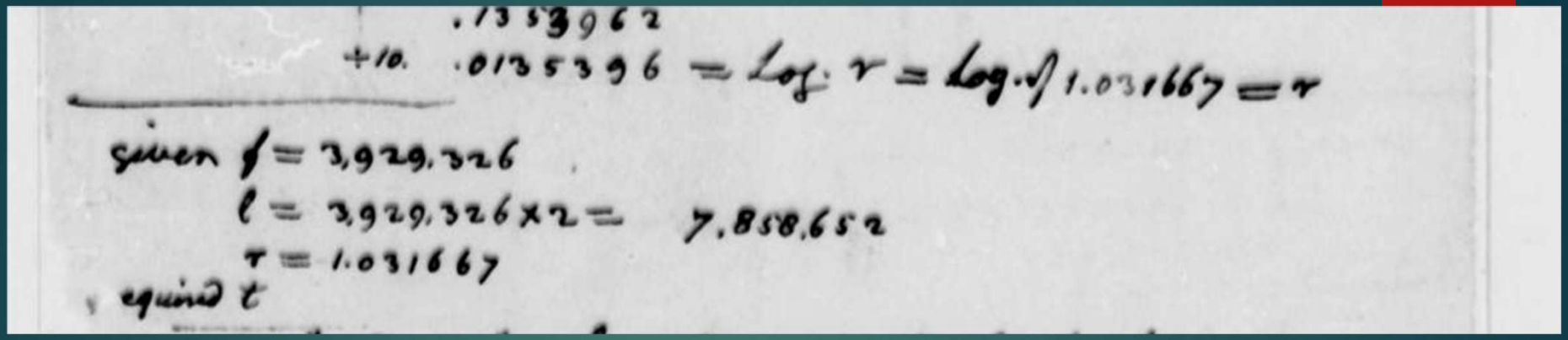
$\text{Log.} r = \frac{\text{Log.} l - \text{Log.} f}{t}$
Log. l. 6.7297142
Log. f. 6.5943180
.1353962
+10. .0135396 = Log. r = Log. 1.031667 = r

# Does your answer agree with this one ?



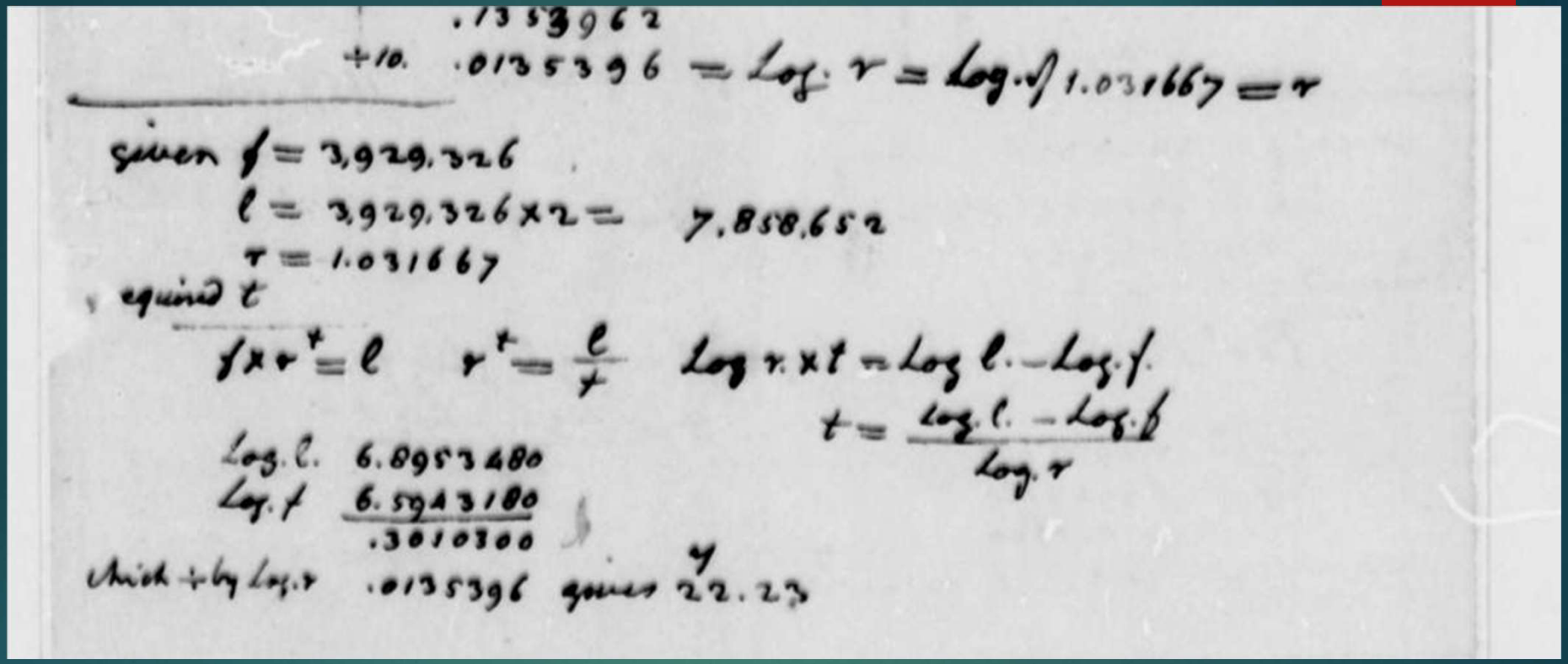

Can you explain the problem the person is trying to set up next ?


.1353962
+10. .0135396 = Log. r = Log. of 1.031667 = r

given f = 3,929,326
l = 3,929,326 × 2 = 7,858,652
r = 1.031667
equind t

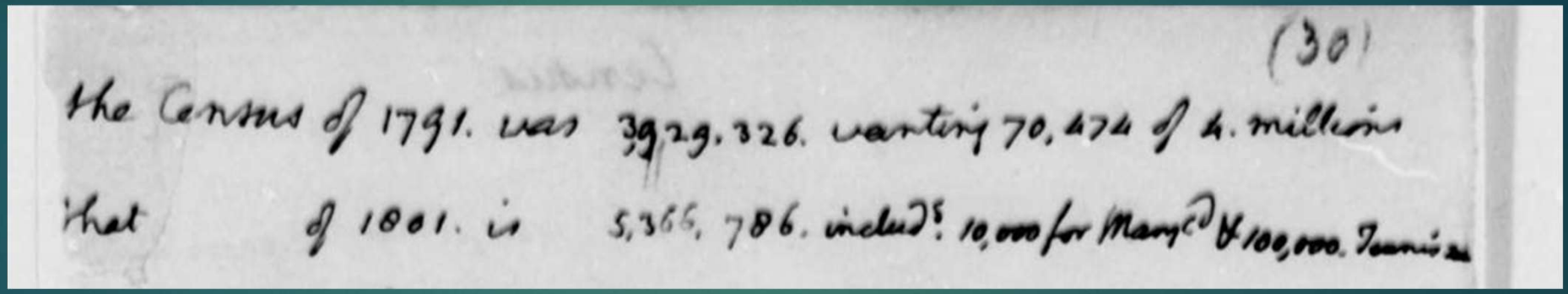
Can you explain the problem the person is trying to set up next ?

Can you find t ?




# Compare your answer…

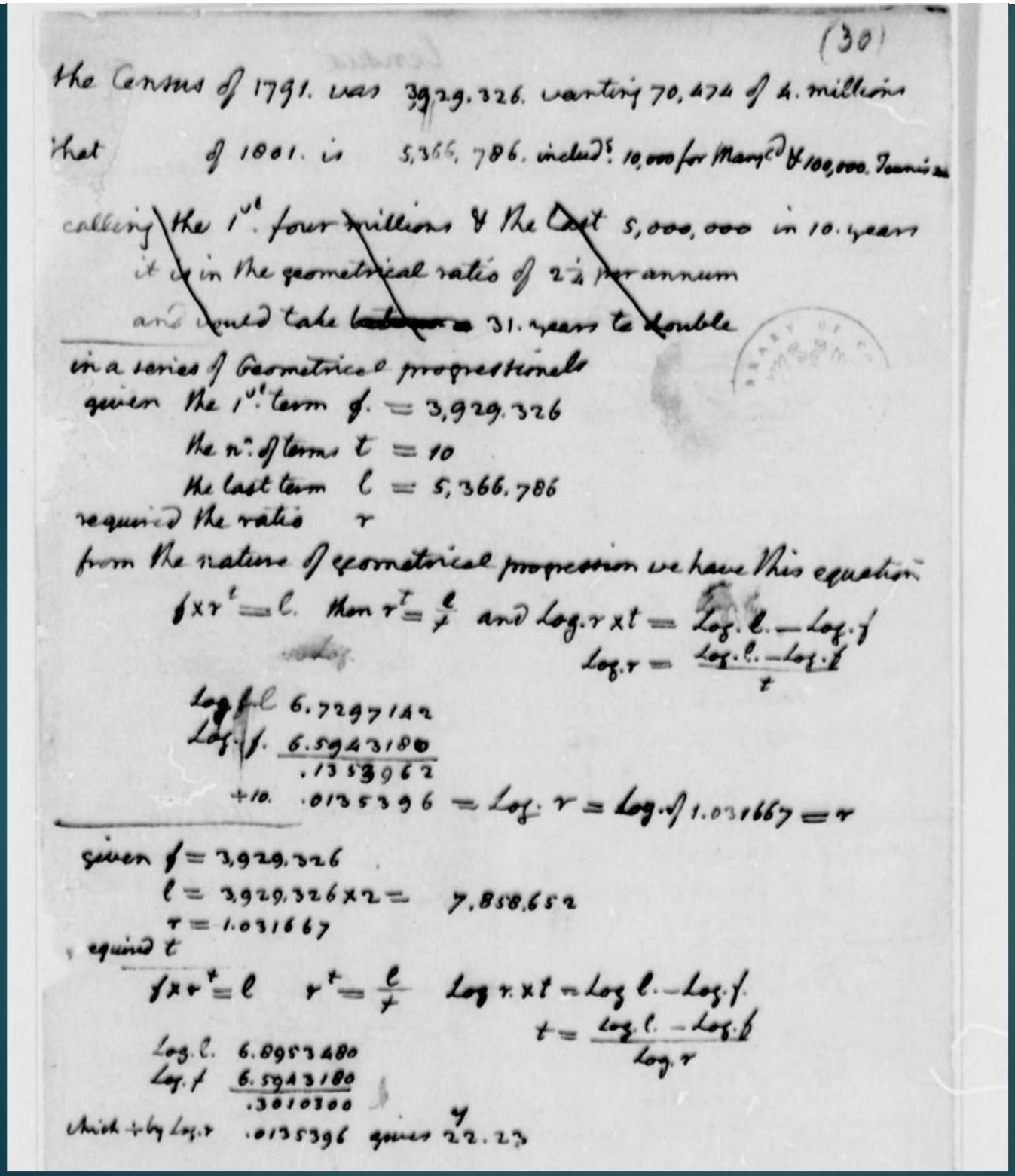
These calculations were related to the census numbers and were made by Thomas Jefferson. What was he trying to determine ?



(30)

the Census of 1791. was 3929.326. wanting 70,474 of 4. millions

that of 1801. is 5,366,786. includ$ 10,000 for Marg$ & 100,000. Tennessee



(30)

the Census of 1791. was 3,929,326. wanting 70,474 of 4. millions

that of 1801. is 5,366,786. includ$^{g}$. 10,000 for Mary$^{d}$ & 100,000. Tennessee

calling the 1$^{st}$. four millions & the last 5,000,000 in 10. years

it is in the geometrical ratio of 2½ per annum

and would take 31. years to double

in a series of Geometrical progressionals

given the 1$^{st}$. term of. = 3,929,326

the n$^{o}$. of terms t = 10

the last term l = 5,366,786

required the ratio r

from the nature of geometrical progression we have this equation

$f \times r^{t} = l$. then $r^{t} = \frac{l}{f}$ and $Log.r \times t = Log.l. - Log.f$

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Log. l. 6.7297142

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.1353962

+10. .0135396 = Log. r = log. of 1.031667 = r

given f = 3,929,326

l = 3,929,326 × 2 = 7,858,652

r = 1.031667

required t

$f \times r^{t} = l$ $r^{t} = \frac{l}{f}$ $Log\ r \times t = Log\ l. - Log.f.$

$t = \frac{Log.l. - Log.f}{Log.r}$

Log. l. 6.8953480

Log. f 6.5943180

.3010300

which + by Log. r .0135396 gives 22.23

(1791) *United States Census, Census Calculations,and 1801.* [Manuscript/Mixed Material] Retrieved from the Library of Congress, https://www.loc.gov/item/mtjbib005818/.

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