ANSWERS TO QUESTIONS FOR 1837.

From our Correspondent, G. T. K.

[By Position.]

No. I.	Rule to find the horses.
Suppose	
10 horses	1st Suppose
25 cows and	10, error x 84
700 Sheep	
	2d Suppose
$735-651 = $ x 84 $=$1st err.	6, error—84
Suppose	
6 horses	$840 + 504 = 1344$ div. by
21 cows	$168 = $ Sum of Errors $= 8$ the
540	number of Horses. Then 8.23.
$651-567 = -84=$2d error.	and 720 are the Nos. required.

No. II. By Algebra.

Let $x = $ side of the square.

Then $\dfrac{8x^2}{12} = $ cost of paving in shillings.

And $20\,x = $ cost of inclosing in do.

But $\dfrac{8x^2}{12} = 20x$ by the question, and clearing this of fractions, it becomes $8x^2 = 240x$.

Dividing by $8x$ gives $x = 30 = $ side of the square.

Consequently $30^2 = 900 = $ extent of court yard.

Otherwise thus :

Multiply 41, the sides of the square, by 60d, the cost of 1 yard; and divide by 8d, the quotient is $30 = $ the side.

No. III.

$2180 \times 3.1416 = 6848.688 = $ circumference, and 6848.688×2180 gives $14930139.84 = $ Superficial content.

No. IV.

By Mensuration, or by 18th Euclid's 12th Book. Spheres are to each other as the cubes of their diameters.
Cube $2180 = 10360232000 = $ cube of diameter. $10360232000 \times 5236 = 5424617475.2 = $ cubic miles in the Moon.

No. V. By 4th of Euclid's 6th Book.

In shadow,	In height,	Feet shadow,	Feet, Inches.
As $15\frac{1}{4}$	ℓ 9	:: $114\frac{3}{4}$	: 66.7 17-31. height Ans.

No. VI.

From 12 passed over by minute hand,
Take 1 passed over by hour hand in same time,
—
11 gained by minute hand in one revolution.

To find when the tw

h.
Say 11 : 12 :: 6 : 6

PR
Divide the number
by the lesser, the quo
If a log be 3 feet in
many feet of square e
inch for the saw calf

PROB
I.   A beam twenty
8 tons 4 feet from one
what proportion of we
II.   A weight of 100
the velocity of which i
III.   A power of 90
pull a weight up an inc
the plane is 40 feet le
drawn?
IV.   The gate of a
pressure of water again
The number of feet in
the number of square
as 8 to 6. Required the

By JOSEPH

I.   A person being as
noon is 4-5ths of the tim
Vulgar Fractions?
II.   A ship having str
that there was a breach i
the time only one board
a majority as useless on t
thematician, insisted that
which he proved to be th
it possible for those sectio
another position, that th
waste of sawing, &c.?
III.   There is a street
of cylindrical lamps in a
Each lamp is 2 feet in dia
a road leading in a N. N.
road there is also a lamp,
(at the south end of the str
yards, a direct ray in passi
road, will be respectively
Required the number of la
IV.   On the 9th June, on
the Sun to be at its greates
watch.   On the 17th July,
made a second observation,
on the former occasion.
I desire to know by calc la
tion expressed in English

[We have to acknowledg
from J. F. N.   The ANSWER