

1. Where the Ordinates are parallel ; $\dot{\lambda} = \sqrt{\dot{x}^2 + \dot{y}^2}$,
and $\dot{a} = \dot{x}y$.

2. Where the Ordinates reſpect a Point ; (Let $r =$ Rad.
of a Circle deſcrib'd on that Point, $x =$ Abſciſſa, and
 $y =$ that part intercepted between the Point and
Curve) $\dot{\lambda} = y^2 \dot{x}^2 + r^2 \dot{y}^2 \Big|^{1/2} \div r$, and $\dot{a} = y^2 \dot{x} \dot{y}$
 $2r$. And by ſubſtituting in the room of \dot{x}^2 or \dot{y}^2 , or of
 \dot{x} or y , their Values from the Equation of the Curve,
there will be produced an Equation whoſe Fluent is the
Length, or Area ſought.

This in Caſe 1. If $y = x^n$, then $\dot{a} = \dot{x}x^n$, th. $a =$
 $\left(\frac{x^{n+1}}{n+1} = \frac{xx^n}{n+1} = \right) \frac{1}{n+1} xy$. And the *Asymptotic Space*,
in the Hyperbola, (n being there *Negative*) is =
 $\frac{1}{-n+1} xy$; Therefore if $n <, =, > 1$, the *Space* will
be *Finite, Infinite, or More than Infinite*.

More Examples are given where Occaſion requires, th.
are here, for Brevity's ſake, omitted.

There are various other ways of finding the *Lengths*,
or *Areas* of particular *Curve Lines*, or *Planes*, which
may very much facilitate the *Practiſe*; as for Inſtance,
in the *Circle*, the Diameter is to Circumference as 1 to

$$\frac{16}{5} - \frac{4}{239} - \frac{1}{3} \frac{16}{5^3} - \frac{4}{239^3} + \frac{1}{3} \frac{16}{5^5} - \frac{4}{239^5} \dots, \text{ \&c.} =$$

3.14159 , &c. = π . This *Series* (among others for the
ſame purpoſe, and drawn from the ſame Principle) I re-
ceiv'd from the Excellent Analyſt, and my much E-
ſteem'd Friend Mr. *Johſ Machin*; and by means there-
of, *Van Ceulen's* Number, or that in Art. 64. 38. may
be Examined with all deſireable Eaſe and Diſpatch.

Whence in the *Circle*, any one of theſe three, a, c, d ,
being given, the other two are found, $ac, d = c \div \pi$
 $= \frac{a \div \frac{1}{4}\pi \Big|^{1/2}}{c} ; c = d \times \pi = \frac{a \times 4\pi \Big|^{1/2}}{a} ; a = \frac{1}{4}\pi \times d^2 =$
 $c^2 \div 4\pi$ And