

= 0. we have this Area = - 4. which, (because the Curve continued, cuts the Ax^e assum'd,) becomes + 4. for the whole Area AFCB. If $a = 9$. then that Space is also 9. = $9 AF \times AF = 9 AF^2$.

The same may be obtained, from the Hyberbolical Curves (see the Figure of the preceding Article,) let $AB = AI$ be 1, and let BE be produc'd in infinitum, the general Equation for the whole Asymptotical Space AB EFG I is $x = \sqrt[m]{y}$ and calling $y^{\frac{1}{n}}$, the Area is $\frac{1}{1 - \frac{1}{n}}$, let the given Number to which we would have the interminated Space equal be a , and let $m = a + 1$, the Exponent of the Curve sought shall be $n = \frac{1}{1 - \frac{1}{m}}$. and subtracting Unity (= to the Square ABEI) from the Area thus found, we shall have the remaining Area IEFG = a . for Example, let $a = 3$, then $m = 4$, and $n = \frac{1}{1 - \frac{1}{4}}$, and consequently $x = y^{\frac{3}{4}}$, and the intermediate Area AB EFG I = $\frac{y^{\frac{1}{4}} - 1}{1 - \frac{1}{4}} = \frac{1}{1 - \frac{1}{4}}$ (calling $y = 1$)

= 4

