

quam reliquæ: nempe ζF , hoc est Zz , ipsi $z C$. Et sic ubique.

3. Recta igitur ZY æquat ubique aggregatum Arcus & Sinus recti, Sinui verso CY convenientium.

Semicyclois.

Fig. 2.

4. Si uper circulo $Cz F$ circa Cycloidis Axem constituto, aut huic æquali, erigatur Cylindrus rectus $Fz C r$, (fig. 2.) altitudinem habens $C r$, diametro Basis æqualem: Tota superficies hujus Cylindri (cum basibus) est dupla Cycloidis $ACDF$; (nempe duæ bases Cylindri fig. 2. sunt duplæ circuli $Cz F$ fig. 1. & Cylindrica superficies curva, dupla reliquorum segmentorum:) Atque si eadem superficies (superficies, inquam; non Cylindrus, ne novæ superficies secando emergant) plano $F C r$ per axem bisecetur: Semisuperficies Cylindri erit dupla Semicycloidis $A F C$; (nempe duæ semibases, sunt duplæ semicirculi $Cz F$ fig. 1; & Semicylindrica superficies curva, dupla trilinei $C A F z$;) Et denique si ea semisuperficies bisecetur adhuc plano elliptico $F \zeta r v$ quod plano $F C r$ rectum sit; semisuperficie illius semissis $r \zeta F z C Y F$ æquabit semicycloidem $C A F$; (nempe Semicirculus basis $Cz F$ fig. 2. æquabit semicirculum $Cz F$ fig. 1. & superficies curva $r \zeta F z C r$ æquabit trilineum $C A F z$.)

5. Nam, sumpto ubivis in Cycloidis axe puncto Y , unde parallela basi ducatur $Yz Z$: rectæ CY in axe Cycloidis sumatur CY æqualis in diametro basis Cylindricæ, unde ducatur Yv lateri $C r$ parallela, diagonali $F r$ occurrens in v ; & per punctum v , plano basi $Fz C$ parallelo, puta $v \zeta c$, secetur superficies cylindrica sectionem exhibens ζc arcum circuli, quæ (propter parallelas) congruet arcui $z C$ in base Cylindri, hoc est arcui $z C$ circuli genitoris, adeoque $z Z$ rectæ æqualis, (sicut & $v \zeta$ congruit rectæ Yz siue in base cylindri siue in circulo generante.)

Quod cum ubique fiat, erunt omnes curvæ in superficie cylindrica $r \zeta F z C r$, ipsi ζc parallelæ, æquales rectis omnibus ipsi $z Z$ parallelis in trilineo cycloidis $C A F z$, & singulæ singulis, & similiter positæ (in iisdem puta siue à base siue à vertice distantis:) Adeoque, propter æqualem etiam utriusque figuræ altitudinem, figura figuræ æqualis: superficies cylindrica, plano trilineo; (sed & segmenta illius respectivis segmentis hujus, ut patet:) Et si addantur utrobique æquales semicirculi $Cz F$, erit

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