quo resultabit quantitas, in quam solùm ingrediantur x, *Fig.*
& dx, quæ integrata dabit aream quæsitam, addendo (quod semper præ oculis habere debet) constantem C. Patet enim, quod spatium infinitesimum $PMmp$ non 105
solum est differentiale quantitatis AMP, sed etiam hujus $CLPM$; consequenter integrale quantitatis $PMmp$ denotabit utramque aream: ergo necesse erit addere integrali invento unam constantem, indicantem differentiam inter aream quæsitam, & eam quæ ex calculo resultat, supponendo semper quod ang. coordinatarum est rectus.

841 Prob. 1. *Invenire aream triang. cujuslibet* ABC. 108

Sol. Sit basis $AB = b$, altitudo $DC = a$; ac ducendo lin. KG parallelam ad basim, sit $CF = x$, $KG = y$; ob rationem basium parallelarum, erit $b : a :: y : x$; ergo $ay = bx$, $y = \frac{bx}{a}$, $ydx = \frac{bxdx}{a}$, ac consequenter $S.ydx = S.\frac{bxdx}{a} = \frac{bx^2}{2a}$; quæ expressio repræsentat quamlibet portionem CKG areæ triang. ABC; ergo si x ob suum incrementum fit $= a$, erit $\frac{bx^2}{2a} = \frac{ba^2}{2a} = \frac{1}{2} ba$, & habebitur area totius triang. conformiter ad dicta in elem. Geomet. (493).

842 Prob. 2. *Invenire aream parabolæ.*

Sol. Cum sit æquatio ad hanc curvam $y^2 = px$, erit $y = p^{\frac{1}{2}}x^{\frac{1}{2}}$, $ydx = p^{\frac{1}{2}}x^{\frac{1}{2}}dx$; ergo $S.ydx = S.p^{\frac{1}{2}}x^{\frac{1}{2}}dx = \frac{p^{\frac{1}{2}}x^{\frac{3}{2}}}{\frac{3}{2}} = \frac{2}{3}p^{\frac{1}{2}}x^{\frac{1}{2}}x = \frac{2}{3}xy$; hoc est, *area parabolæ est æqualis duobus tertiis rectanguli abcissæ per ordinatam.*

843 Prob. 3. *Invenire aream circuli.*

Sol. Hujus æquatio, numerando abscissas è centro, & 99

Fig. dato quod ejus radius sit $= a$, est $y^2 = a^2 - x^2$; ergo $y = \sqrt{a^2 - x^2}$, $ydx = dx\sqrt{a^2 - x^2}$; $S.ydx = S.dx\sqrt{a^2 - x^2} = ax - \frac{x^3}{2.3a} - \frac{1x^5}{2.4.5a^3} - \frac{1.3x^7}{2.4.6.7a^5} -$ &c. quæ expressio repræsentat aream cujuslibet spatii circularis *CPNG*, cum sit $CP = x$. Quare si consideramus quod fit $x = a$, & hic valor substituitur in expressione precedente, productum $a^2 - \frac{a^2}{2.3} - \frac{1.3a^2}{2.4.5} - \frac{1.3.5a^2}{2.4.6.7} -$ &c. repræsentabit aream quadrantis *CGNA*, cujus quadruplum erit area circuli integri, aut tota ejus quadratura.

844 Prob. 4. *Invenire aream elipsis.*

Sol. In hac curva numerando abscissas è centro, cum sit $CP = x$, semiaxis minor $= b$, & major $= a$, est $y = \frac{b}{a}\sqrt{a^2 - x^2}$; ergo $ydx = \frac{bdx}{a}\sqrt{a^2 - x^2}$, $S.ydx = S.\frac{bdx}{a}\sqrt{a^2 - x^2} =$ portioni spatii eliptici cujuslibet *CPMD*, & cum sit (843) $S.dx\sqrt{a^2 - x^2} =$ spatio circulari *CGNP*; patet quod erit $CPMD : CGNP :: \frac{b}{a} : 1 :: b : a$, hoc est, *spatium elipticum inter duas ordinatas contentum, est ad spatium correspondens circuli circumscripti ad elipsim, sicut axis minor elipsis ad suum axim majorem; ac consequenter tota elipsis habet cum toto circulo eandem rationem.*

ARTICULUS VI.

De Rectificatione curvarum.

845 Theor. Formula generalis exprimens differentiale, seu elementum infinitesimum arcus cujuslibet curvæ est $\sqrt{dx^2 + dy^2}$.

Vi-

Vidimus (802) quod arcus *Mm* est elementum *Fig.*
infinitesimum arcus *AM*; sed ille arcus ob suam exigui- 105
tatem necessariò confundi debet cum portione *Mm*
tang. TM , ac proinde erit hypothenusa *triang. MRm*
rectanguli in *R*, datis $Mm = \sqrt{dx^2 + dy^2}$; ergo &c.

846 Coroll. Cum sit arcus infinitesimus $Mm = \sqrt{dx^2 + dy^2}$ differentiale arcus *AM* , necessario erit $S.\sqrt{dx^2 + dy^2} = AM$. Sic ad rectificandam quamlibet curvam, differentiabitur ejus æquatio, deducetur valor ex dx^2, seu dy^2, qui substituetur in formula generali, ac postea integrando habebitur curva ad rectam reducta.

847 Prob. 1. *Rectificare arcum quemlibet* DM *parabolæ.*

Sol. Æquatio ad hanc curvam, cum sit parameter 97
$= p$, & $AP = x$, est $y^2 = px$, quæ differentiata dat $2ydy = pdx$; ergo $dx = \frac{2ydy}{p}$, $dx^2 = \frac{4y^2dy^2}{p^2}$, cujus valor substitutus in formula generali dat $\sqrt{dx^2 + dy^2} = \sqrt{\frac{ay^2dy^2}{p^2} + dy^2} = \frac{dy}{p}\sqrt{p^2 + 4y^2}$; ac consequenter $S.\sqrt{dx^2 + dy^2} = S.\frac{dy}{p}\sqrt{p^2 + 4y^2} = y + \frac{2y^3}{3p^2} - \frac{2y}{5p^4} + \frac{4y^7}{p7^6} -$ &c. expressio significans quemlibet arcum *AM* parabolæ jam rectificatum.

848 Prob. 2. *Rectificare quemlibet arcum* GM *circuli.*

Sol. Numerando abscissas è centro, & cum sit radius $= a$ 95
est in hac curva $y = \sqrt{a^2 - x^2}$; ergo $dy = \frac{-xdx}{\sqrt{a^2 - x^2}}$, $dy^2 = \frac{x^2dx^2}{a^2 - x^2}$; cujus valor substitutus in formula generali dat $\sqrt{dx^2 + dy^2} = \frac{adx}{\sqrt{a^2 - x^2}}$, ac consequenter . . .

Fig.

$$S.\sqrt{dx^2+dy^2} = S.\frac{adx}{\sqrt{a^2-x^2}} = x + \frac{x^3}{2.3a^2} + \frac{1.3.5x^7}{2.4.6.7a^6} + \&c.$$

in qua expressione repræsentatur valor arcus cujuslibet circularis *GM* rectificati, & faciendo in ea $x = a$ habebitur rectificatio quadrantis *GMA*, cujus quadruplum exprimet rectificationem totius peripheriæ circularis.

ARTICULUS VII.

De Cubicatione, seu mensura solidorum.

849 THeor. *Formula generalis exprimens differentiale, aut elementum infinitesimum unius solidi, producti per revolutionem curvæ circum suum axim, est* $\frac{py^2dx}{2r}$ *repræsentando* y *ordinatas*, x *abscissas*, *&* r : p *rationem radii ad peripheriam.*

Considerando quod curva *AM* gyrat circum suum
105 axim *AQ*, absdubio generabit solidum, in quo quælibet sectio perpendicularis ad axim erit circulus habens pro radio ordinatam y curvæ; consequenter circumferentia singulis his sectionibus correspondens erit $= \frac{py}{r}$ (499), & ejus area $= \frac{py^2}{2x}$ (496).

Hoc supposito, si consideremus omne solidum revolutionis conflatum ex sectionibus infinitè parvis, & ad axim perpendicularibus, differentia inter duas has superficies planas cujuslibet nulla erit, cum sit infinitè parva; quare contemplari singulæ poterunt tanquam cilinder, cujus basis est superficies circuli descripti radio y, & altitudo differentiale dx; ergo cujuslibet soliditas infinitesima $= \frac{py^2dx}{2r}$ (600).

Cum

850 Cum sit itaque $\frac{py^2dx}{2r}$ elementum infinitesimum Fig.
solidorum revolutionis, habebimus quod $S.\frac{py^2dx}{2r}$ exprimet omne solidum. Sic ut illa formula ad casus speciales contrahatur, deducetur ex æquatione plani generatoris valor ex y^2 in expressionibus ex x: substituetur in formula generali, ac postmodum integrando, resultabit valor, aut mensura soliditatis totius solidi revolutionis.

851 Schol. Licet solida non sint revolutionis, possunt considerari tanquam composita ex fragmentulis, aut sectionibus infinitè parvis, & inter se parallelis. Quare appellando t unam è superficiebus cujuslibet sectionis, & x quamlibet portionem lineæ ad eas perpendicularis, erit soliditas singularum $= tdx$; ac consequenter $S.tdx$ exprimet soliditatem totius solidi; & ita ad hoc ut hæc forma applicabilis reddatur, nil superest nisi ut in casibus specialibus inveniatur valor ex t in expressionibus ex x.

Ex. Proponatur invenienda hoc medio soliditas py- 81
ramidis $OGHK$; ad hoc supponemus ejus basim $GHK = c^2$, altitudinem $DO = a$, & appellando x portionem dO, distantiam cujuslibet sectionis, cujus superficies est $ghk = t$, ad verticem O, habebimus (544) $c^2 : t :: a^2 : x^2$; ergo $t = \frac{c^2x^2}{a^2}$, $tdx = \frac{c^2x^2dx}{a^2}$; $S.tdx = S.\frac{c^2x^2dx}{a^2} = \frac{c^2x^3}{3a^2}$; quæ quidem expressio repræsentat soliditatem unius portionis pyramidalis cujuslibet $Oghk$; & si supponimus $x = a$, 81
expressio $\frac{c^2x^3}{3a^2}$ convertetur in hanc $\frac{1}{3}c^2a$, in qua repræsentatur soliditas totius pyramidis $OGHK$, sicut in principiis Geometriæ (606).

852 Prob. I. *Invenire soliditatem coni* GBL, *gene-* 76
ra-

Fig. *rati per rotationem triang. rectanguli* SCL *circum cathetum* CS.

Sol. Sit $CS = b$, $CL = a$, & ducendo lin. cl parallelam ad CL, sit $cS = x$, & $cl = y$, habebimus $b : a :: x : y$; consequenter $ax = by$, æquatio plani generatoris coni, & ejus virtute habebimus $y = \frac{ax}{b}$, $y^2 = \frac{a^2x^2}{b^2}$, cujus valor substitutus in formula generali solidi infenitesimi dat $\frac{py^2dx}{2r} = \frac{pa^2x^2dx}{2rb^2}$, $S.\frac{py^2dx}{2r} = S.\frac{pa^2x^2dx}{2rb^2} = \frac{pa^2x^3}{3.2.rb^2}$, cujus expressio repræsentat soliditatem unius portionis conicæ cujuslibet blS; & siquidem supponimus $x = b$, convertetur in $\frac{pa^2b}{3.2r} = \frac{pa^2}{2r}.\frac{1}{3}b$ in qua repræsentatur soliditas totius coni SBL (§. 607).

853 Prob. 2. *Invenire soliditatem conoidis parabolici.*

Sol. Vocatur generatim conois omne solidum formatum per revolutionem cujuslibet è tribus sectionibus conicis circum suum axim, suam applicatam, aut suam tangentem.

Et speciatim, si sectio generatrix est semiparabola, solidum resultans dicitur *conois parabolica*, aut *paraboloides*: si semihyperbola, *conois hyperbolica*, aut *hyperboloides*: si semielipsis, *conois eliptica*, aut *elipsoides*; tamen si semielipsis gyrat circa suum axim majorem, solidum dicitur *elipsoides prolongata*; si autem circum axim minorem, *contracta.*

Hoc supposito, vocando a parametrum parabolæ, erit ejus æquatio $y^2 = ax$, cujus valor substitutus in formula generali solidi differentialis dat $\frac{py^2dx}{2x} = \frac{paxdx}{2x}$, ac consequenter $S.\frac{py^2dx}{2r} = S.\frac{paxdx}{2r} = \frac{pax^2}{2.2r} = \frac{pax}{2r}.\frac{1}{2}x = \frac{py^2}{2r}.\frac{1}{2}x$, expressio manifestans soliditatem cujuslibet conoidis para-

bo-

bolicæ esse æqualem producto suæ basis $\frac{py^2}{2x}$ per $\frac{1}{2}x$ dimidium suæ altitudinis. *Fig.*

854 Coroll. Ergo cylinder, paraboloides, & conus æqualium basium & altitudinum sunt inter se sicut x, $\frac{1}{2}x$, $\frac{1}{3}x$, hoc est, sicut $1, \frac{1}{2}, \frac{1}{3}$, seu sicut $6, 3, 2$.

855 Prob. 3. *Invenire soliditatem elipsoides prolongatæ.*

Sol. Supponendo quod axis major elipsis est $= 2a$, & minor $= 2b$, habebimus $y^2 = \frac{b^2}{a^2}(2ax - x^2)$, cujus valor substitutus in formula generali dat $\frac{py^2dx}{2x} = \frac{pb^2}{2xa^2}(2axdx - x^2dx)$; ac consequenter $S.\frac{py^2dx}{2r} = S.\frac{pb^2}{2ra^2}(2axdx - x^2dx) = \frac{pb^2}{2ra^2}(ax^2 - \frac{1}{3}x^3)$ quæ expressio significat soliditatem cujuslibet portionis elipsoidicæ; & supponendo quod deveniat $x = 2a$, illa expressio convertetur in $\frac{2pb^2a}{3r} = \frac{pb^2a}{r}\cdot\frac{2}{3}$, quæ explicat soliditatem totius elipsoidis.

856 Coroll. Cum sit circulus descriptus semiaxi conjugato tanquam radio $= \frac{pb^2}{2r}$, soliditas unius cylindri hujus basis, & altitudinis $= 2a$, axis major elipsis, erit $= \frac{pb^2}{2r}\cdot 2a = \frac{pb^2a}{r}$; ergo soliditas elipsoidis est ad eam cylindri qui circumscribi potest $: : \frac{2}{3} : 1 : : 2 : 3$; & cum sit sphæra elipsoides axium conjugatorum æqualium, infertur quod etiam sphæra erit ad cylindrum qui & circumscribi potest $: : 2 : 3$; hoc est, *elipsoides, & etiam sphæra est æqualis duobus tertiis cylindri circumscripti.*

AR-

Fig.

ARTICULUS VIII.

De Superficie curvarum solidorum revolutionis.

857 THeor. *Formula generalis exprimens differentiale, aut elementum infinitesimum superficierum curvarum in solidis revolutionis est* $\frac{py}{r}\sqrt{dx^2+dy^2}$, *repræsentando* y *ordinatas*, x *abscissas*, *ex* r : p *rationem radii ad peripheriam.*

105 Prout curva *AM* in sua revolutione describit super axim *AQ* superficiem curvam totius solidi, arcus infinitesimus *Mm* describet absdubio superficiem coni truncati, quæ erit differentiale, aut elementum infinitesimum superficiei solidi revolutionis, & ejus expressio erit productum ex *Mm* per circumferentiam circuli descripti radio ducto perpendiculariter è dimidio *Mm* super axim *AQ* (587), qui in nihilo differt à $PM = y$ (801); sed $Mm = \sqrt{dx^2+dy^2}$ (845) & $\frac{py}{r}$ = peripheriæ circuli, cujus radius $= y$: ergo reipsa illa superficies, aut elementum infinitesimum erit $= \frac{py}{r}\sqrt{dx^2+dy^2}$.

858 Coroll. Cum sit $\frac{py}{r}\sqrt{dx^2+dy^2}$ formula generalis exprimens elementum infinitesimum superficierum curvarum in solidis revolutionis, $S. \frac{py}{r}\sqrt{dx^2+dy^2}$ exprimet totam superficiem curvam cujuslibet è illis solidis; sic ad applicandam formulam illam ad casus speciales, sumetur æquatio curvæ generatricis, deducetur valor ex y in expressionibus x, ac differentiando quantitatem resultantem, deducetur etiam valor ex dy^2 in æquationi-

nibus x, & dx, quorum valores substituti in formula generali, ac integrando postmodum, dabunt superficiem quæsitam. *Fig.*

859 Prob. 1. *Invenire superficiem curvam coni recti* SBL. 76

Sol. Cum hic formetur per revolutionem triang. rectanguli SLC circum cathetum $CS = b$, si supponimus $CL = a$, $cS = x$, & $cl = y$, æquatio lineæ generatricis erit $ax = by$ (707); ergo $y = \frac{ax}{b}$ cujus æquatio differentiata dat $dy = \frac{adx}{b}$ $dy^2 = \frac{a^2dx^2}{b^2}$; substituendo hos valores ex y, & ex dy^2 in formula generali elementi superficialis, habebimus $\frac{py}{r}\sqrt{dx^2 + dy^2} = \frac{pax}{br}\sqrt{dx^2 + \frac{a^2dx^2}{b^2}} = \ldots$ $\frac{paxdx}{b^2r}\sqrt{b^2 + a^2}$; ac consequenter $S.\frac{py}{2}\sqrt{dx^2 + dy^2} = S.\frac{paxdx}{b^2r}\sqrt{b^2 + a^2} = \frac{pax^2}{2rb^2}\sqrt{b^2 + a^2}$; quæ expressio repræsentat superficiem convexam cujuslibet portionis conicæ Sbl; ac si supponimus $x = b$ substituendo habebimus $\frac{pax^2}{2rb^2}\sqrt{b^2 + a^2} = \frac{pa}{2x}\sqrt{b^2 + a^2}$, expressio manifestans totam superficiem curvam coni; & quoniam $\sqrt{b^2 + a^2}$ repræsentat latus SL coni, & $\frac{pa}{2r}$ semiperipheriam circuli suæ basis, sequitur quod superficies convexa unius coni æqualis est producto semiperipheriæ circuli suæ basis per suum latus SL.

860 Probl. 2. *Invenire superficiem spheræ cujus diameter* $= 2a$.

Sol. Æquatio curvæ generatricis, vel circuli est $y^2 = 2ax - x^2$; ergo $y = \sqrt{2ax - x^2}$, $dy = \frac{adx - xdx}{\sqrt{2ax - x^2}}$

d

Fig. $dy^2 = \frac{a^2dx^2 - 2axdx^2 + x^2dx^2}{2ax - x^2}$, qui valores substituti in formula elementi superficialis dat $\frac{py}{r}\sqrt{dx^2 + dy^2} = \frac{apdx}{r}$; ac consequenter $S. \frac{py}{r}\sqrt{dx^2 + dy^2} = S. \frac{apdx}{r} = \frac{apx}{r} = \frac{ap}{r}. x$, quæ expressio manifestat superficiem convexam fragmenti sphærici cujuslibet; ac faciendo $x = a$, expressio præcedens convertetur in $\frac{ap}{r}. a$, quæ repræsentabit superficiem convexam semisphæræ, & ejus duplum $\frac{ap}{r}. 2a$ superficiem totius sphæræ. Hoc significat, quod *superficies curva cujuslibet portionis sphæricæ est semper æqualis producto unius circuli maximi sphæræ per altitudinem correspondentem singulis illis portionibus.*

ARTICULUS IX.

De Methodo inversa tangentium.

861 HUcusque, mediis æquationibus curvarum, cognitionem aperuimus earum proprietatum, subtang., tang., subnorm., norm., arearum, &c. Nunc, media harum proprietatum cujuslibet cognitione, investigabimus æquationem, & naturam curvæ cui correspondet; quod quidem nil est quam exequi, seu ad praxim reducere *methodum inversam* tangentium. Modus igitur hùc aptandi calculum integralem, pendet ex circunstantiis, quas duo sequentes casus comprehendunt.

1.° Dum nobis dentur expressiones subtangentium, tangentium, ac cujuslibet è illis quantitatibus, quæ medio calculo differentiali inveniuntur, eas æquabimus formulis generalibus quantitatum, quas repræsentant, hanc-

hancque æquationem postmodum integrando, resultabit *Fig.* æquatio curvæ, quæ desideratur.

2.° Si detur expressio alicujus arcus, areæ, solidi revolutionis, aut horum superficiei, differentiabitur illa expressio, cujus differentiale æquale fiet formulæ generali, dato respondenti, ac postea integrando illam æquationem, dum opus est, resultabit æquatio curvæ correspondentis.

862 Prob. 1. *Invenire curvam, cujus subtangens sit* $= \frac{2y^2}{p}$.

Sol. Fiat $\frac{2y^2}{p} = \frac{ydx}{dy}$, erit $2ydy = pdx$, quæ æquatio integrata dat $y^2 = px$, æquatio ad parabolam, cujus parameter $= p$.

863 Prob. 2. *Invenire curvam, cujus subtangens sit tertia proportionalis ad* a — x, *&* *ad* y.

Juxta conditionem erit $\overline{a - x} : y :: y : \frac{ydx}{dy}$; ergo $adx - xdx = ydy$, ac integrando $ax - \frac{1}{2}x^2 = \frac{1}{2}y^2$, vel $y^2 = 2ax - x^2$, æquatio ad circulum cujus diameter $= 2a$.

864 Prob. 3. *Invenire curvam, in qua subnormalis sit* = a.

Sol. Faciemus $\frac{ydy}{dx} = a$; ergo $ydy = adx$, integrando erit $\frac{y^2}{2} = ax$, vel $y^2 = 2ax$, æquatio ad parabolam cujus parameter $= 2a$.

865 Prob. 4. *Invenire curvam, cujus area sit* $= \frac{x^3}{3p}$.

Sol. Differentiando hanc expressionem, & æquando differentiale ad formulam generalem elementi infinitesimi arearum

Fig. $\frac{x^2dx}{p} = ydx$, vel $x^2 = py$, æquatio ad parabolam externam, cujus parameter $= p$.

866 Prob. 5. *Invenire curvam generatricem solidi expressi per* $S. (pxdx - \frac{pxdx^2}{2r})$.

Differentiando, & æquando cum formula generali solidi elementalis in solido revolutionis, erit $pxdx - \frac{px^2dx}{2r} = \frac{py^2dx}{2r}$, vel $2rpxdx - px^2dx = py^2dx$; ergo $y^2 = 2xx - x^2$, quæ quidem æquatio manifestat, quod curva generatrix est peripheria circuli, cujus diameter $= 2x$, ac sphæra solidum propositum.

F I N I S.

Pag. 5. *lin.* 28. illa, *leg.* alia: ibid. hæc, *leg.* & alia.

Pag. 7. lin. 7. tertius, adde, dictus *productnm*: ibid *lin.* 28. nota &c. *leg.* multiplicator.

Pag. 13. *lin.* 17. Tolle, *leg.* generatim: ibid. *lin.* 26. æque *leg.* in eodem respectu: ibid. *lin.* 29. $\frac{1}{2} \frac{2}{4} \frac{4}{8}$, *leg.* $\frac{1}{2}$, $\frac{2}{4}$, $\frac{4}{8}$.

Pag. 15. *lin.* 2. nominatores, *leg.* numeratores.

Pag. 18. *lin.* 1. sic, *leg.* sit.

Pag. 20. *lin.* 4. centies, *leg.* centes: ibid. *lin.* 11. hora $\frac{1}{24}$, *leg.* hora $1 = \frac{1}{24}$: ibid. minutam $\frac{1}{60}$, *leg.* minutum $1 = \frac{1}{60}$: ibid. *lin.* 17. tolle, *leg.* *immo duo vel tres.*

Pag. 29. *lin.* 29. illarum, *leg.* ejus.

Pag. 30. *lin.* 2. mille, adde, nam: ibid. *lin.* 10. radice (§. 85) *leg.* radice (§. 85) & consequenter inveniri poterit summa cum facilitate: ibid. *lin.* 23. & residuum, *leg.* & subscribatur residuum: ibid. *lin.* 27. adjungatur: *per*, *leg.* adjungatur, atque *per.*

Pag. 33. *lin.* 1. contineatur, *leg.* continetur: ibid. *lin.* 20. factoris, *leg.* numeratoris.

Pag. 39. *lin.* 12. $\overline{ef+qd.m}$, leg. $\overline{ef+qd}.m$: ibid. brevius, *leg.* etiam.

Pag. 42. *lin.* 24. b^3. *leg.* a^3. ibid. *lin.* ult. deinde, *leg.* hoc modo.

Pag. 47. *lin.* 18. quantitas, *leg.* quantitatis.

Pag. 51. *lin.* 10. $\sqrt[mn]{d^{\frac{n}{n}}}$, *leg.* $\sqrt[mn]{\frac{c^n}{d^n}}$: ibid. *lin.* 14. productum, *leg.* quotiens: ibid. *lin.* 20. $\sqrt[n]{a}$, *leg.* $\sqrt[n]{a^n}$.

Pag. 52. *lin.* 3. radix $n\sqrt[m]{a}$, *leg.* radix n quantitatis $\sqrt[m]{a}$: ibid. *lin.* 6. radix. $\frac{u}{s}\ \frac{a}{b}\sqrt[n]{\frac{c}{d}}$, *leg.* radix $\frac{n}{s}$ quantitatis $\frac{a}{b}\sqrt[n]{\frac{c}{d}}$.

Pag. 57. *lin.* 22. exponens b, *leg.* exponens speciei b.

Pag. 58. *lin.* 1. $\pm\frac{b}{a}$, *leg.* $\frac{\mp b}{a}$: ibid. *lin.* 20. $32a^5$, *leg.* $32x^5$.

Pag. 71. *lin.* 2. x, *leg.* $= x$: ibid. y, *leg.* $= y$.

Pag. 78. *lin.* 17. 25, *leg.* 258: ibid.

Pag. 81. *lin.* 4. $a + 8$, *leg.* $a = 8$.

Pag. 87. *lin.* 20. $yx =$, *leg.* & $x =$: ibid. *lin.* ult. $\div a\ \sqrt[m+1]{a^{mb}}$, *leg.* $\div a\,.\sqrt[m+1]{a^m b}$.

Pag. 88. *lin.* 2. exponens a, *leg.* exponens speciei a.

Pag. 93. *lin.* 4. crescere, aut decrescere, *leg.* decrescere aut crescere: ibid. *lin.* 14. 235. 50, *leg.* 235. Ex. 1.°. 50.

Pag. 97. *lin.* 24. 6, *leg.* 60.

Pag. 98. *lin.* 15. summa, *leg.* sorte.

Pag. 99. *lin.* 25. 2^5, *leg.* 25.

Pag. 106. *lin.* 23. additione, (supple) eorum.

Pag. 116. *lin.* 21. numerum, *leg.* numerorum.

Pag. 119. *lin.* 16. o, *leg.* duo.

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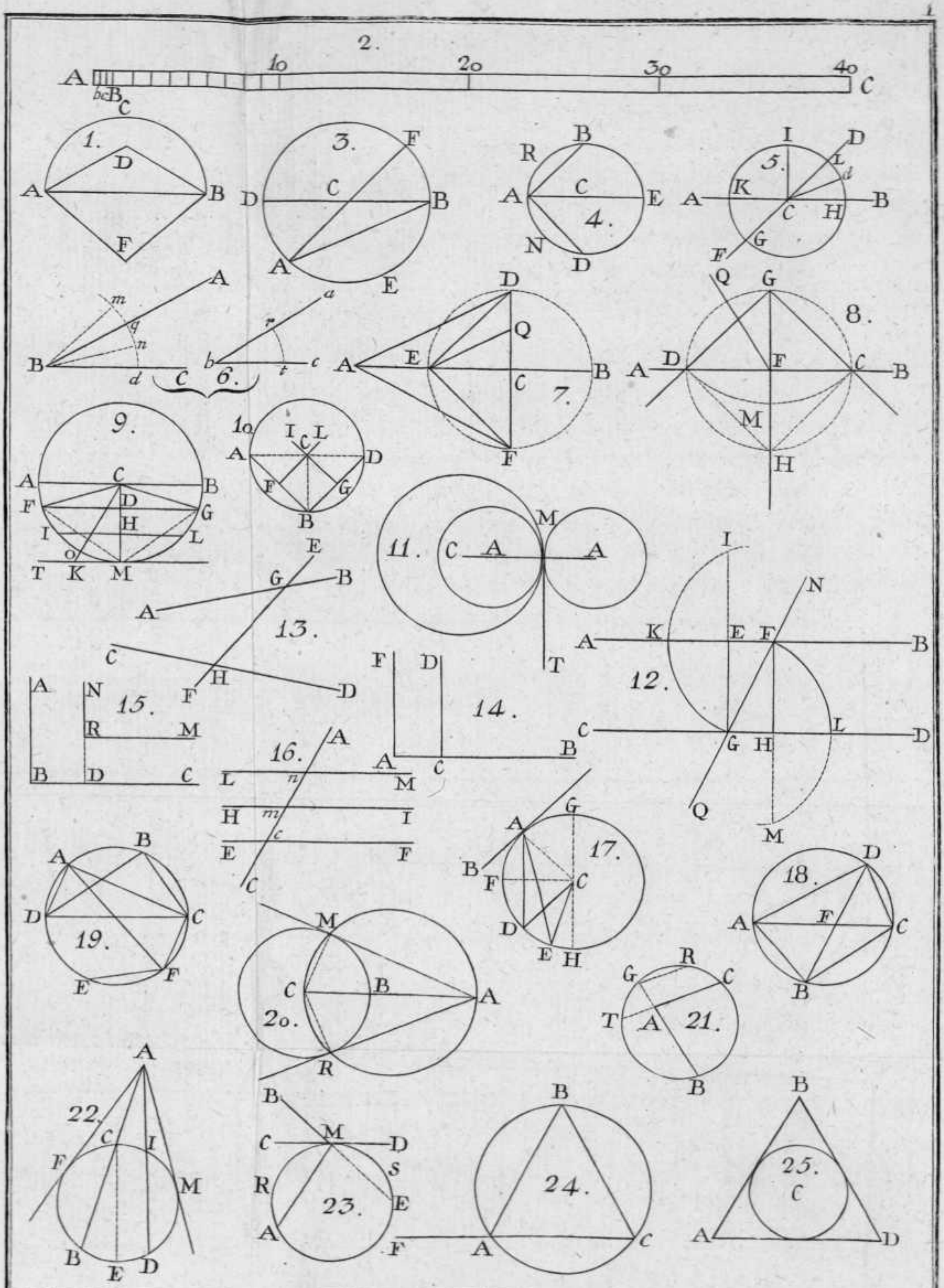
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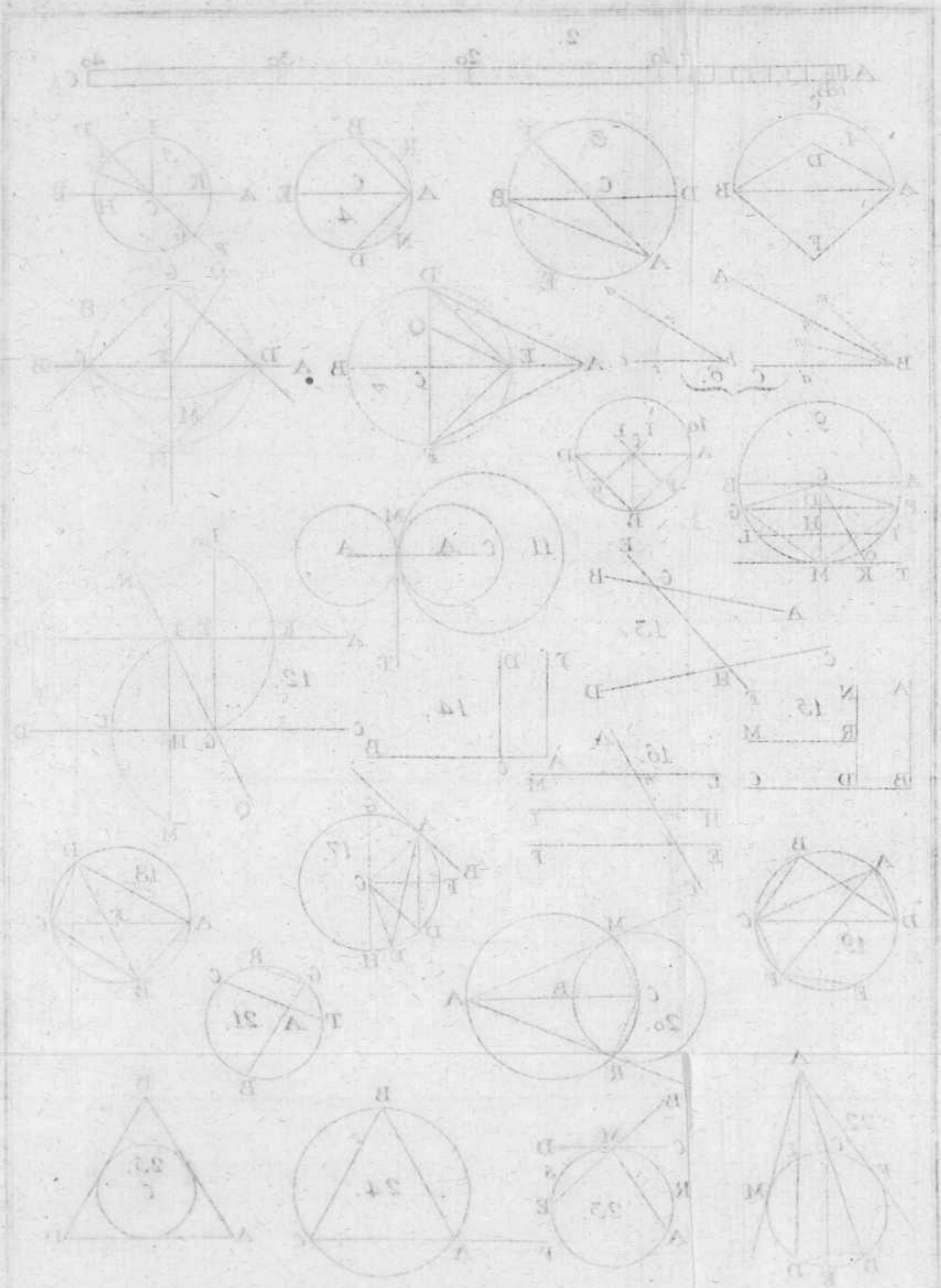

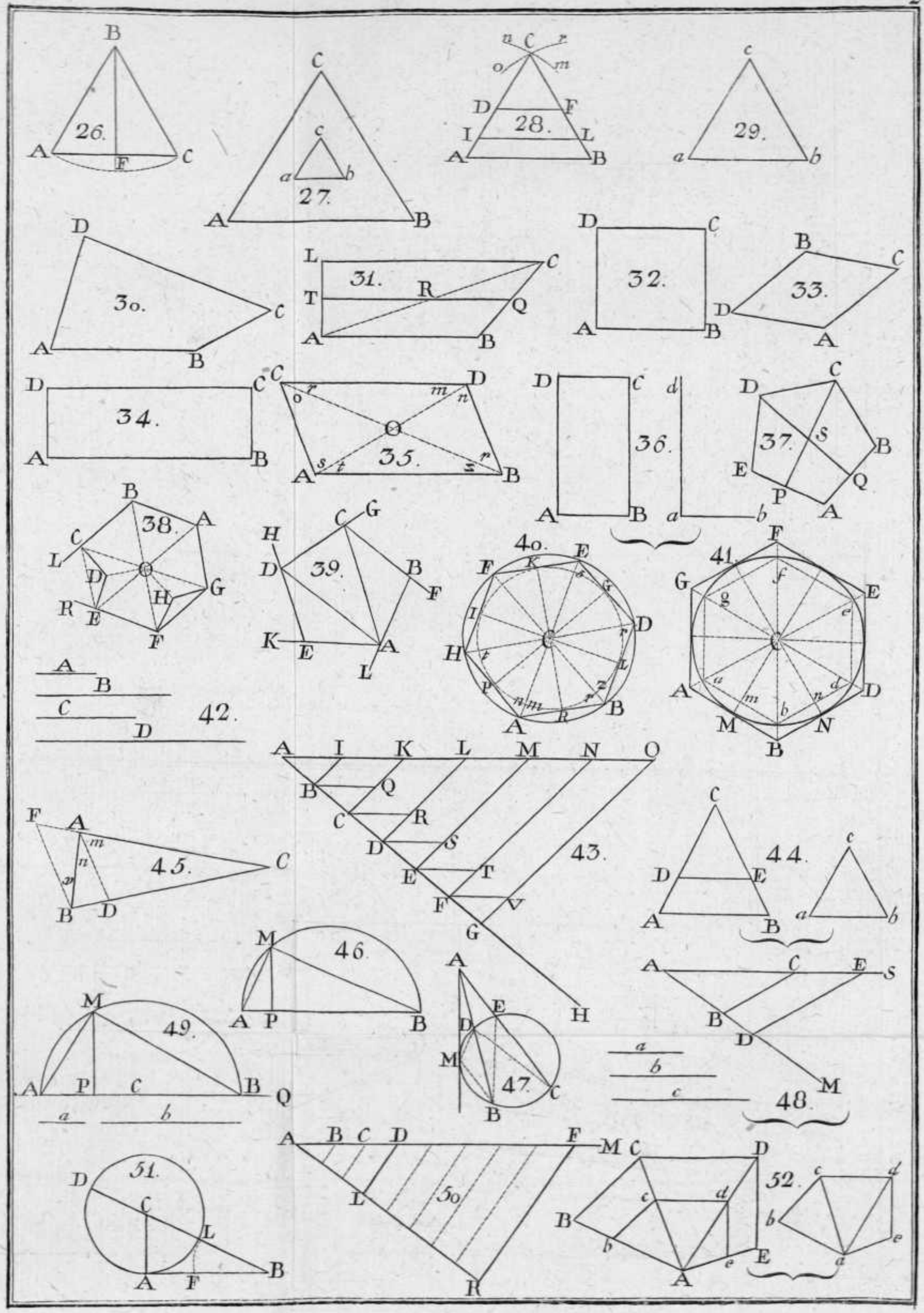
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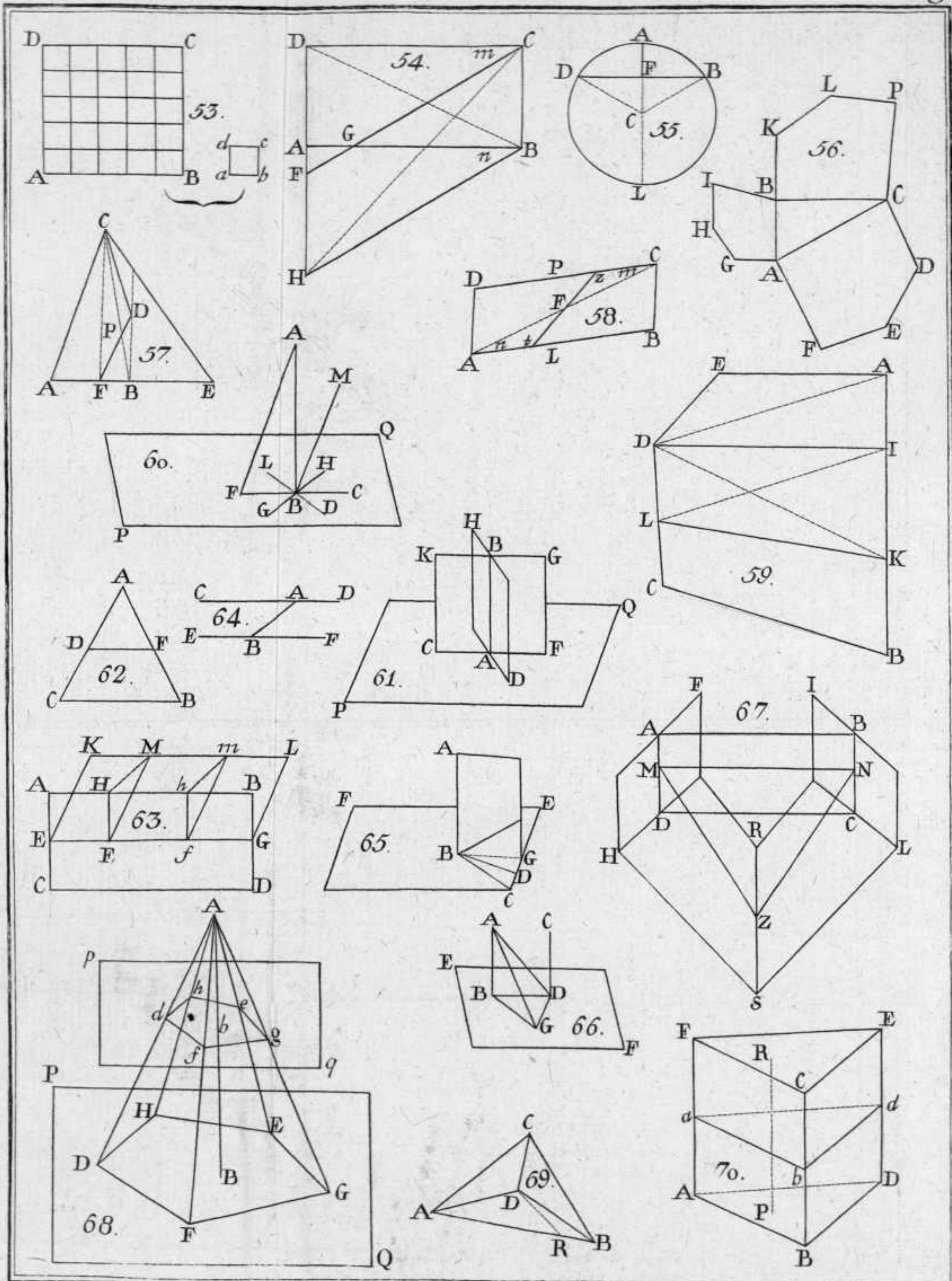
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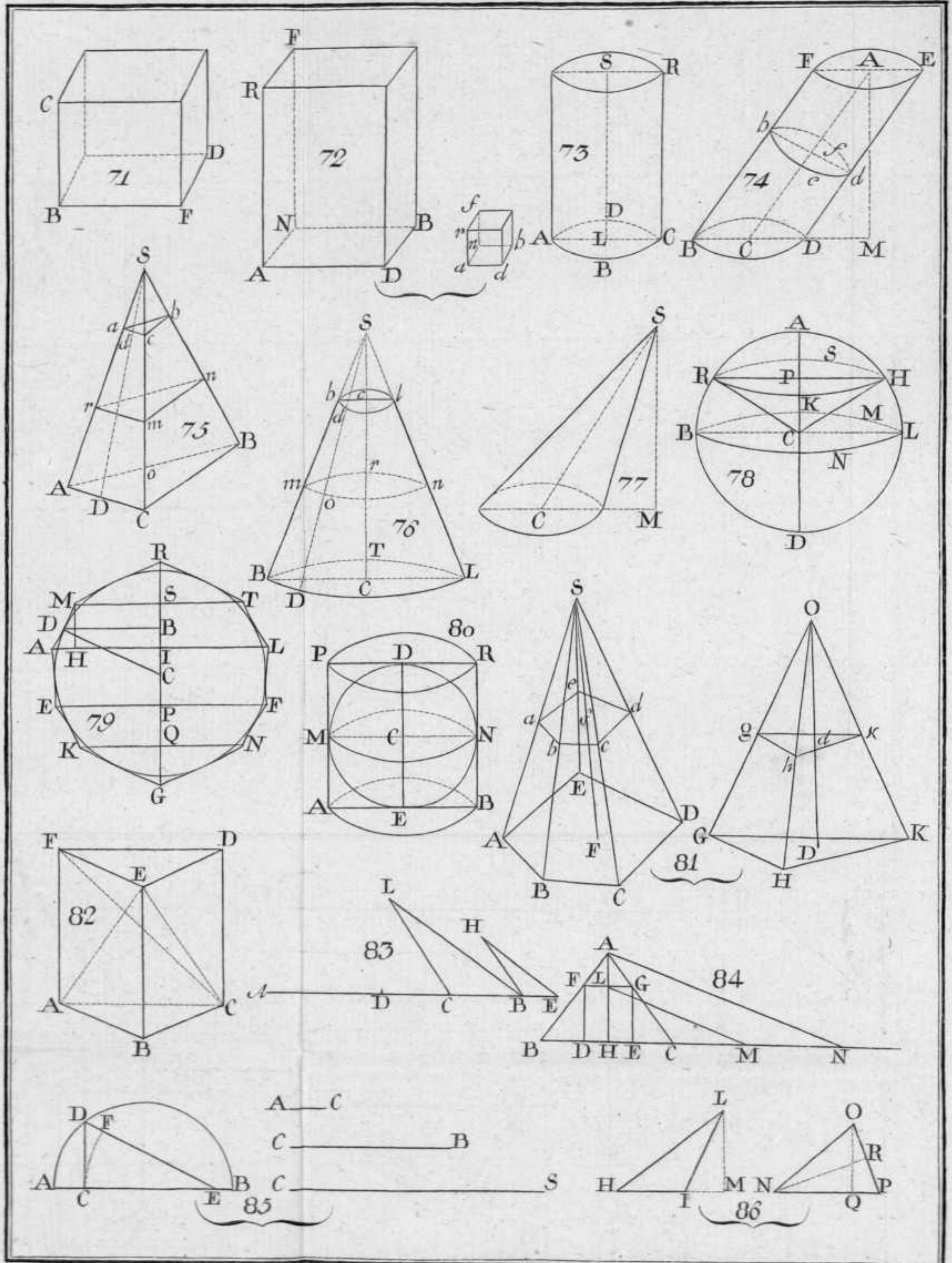
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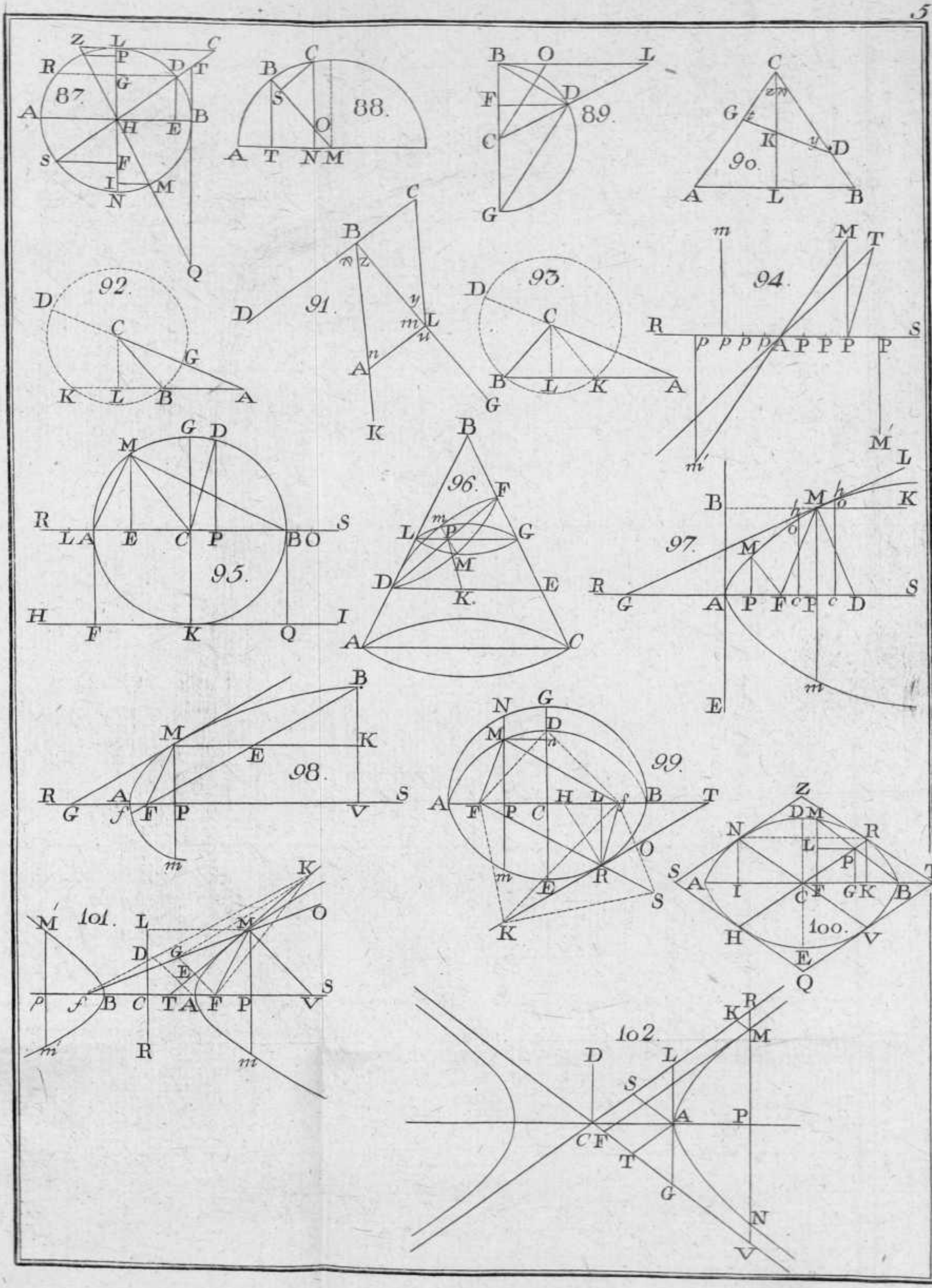
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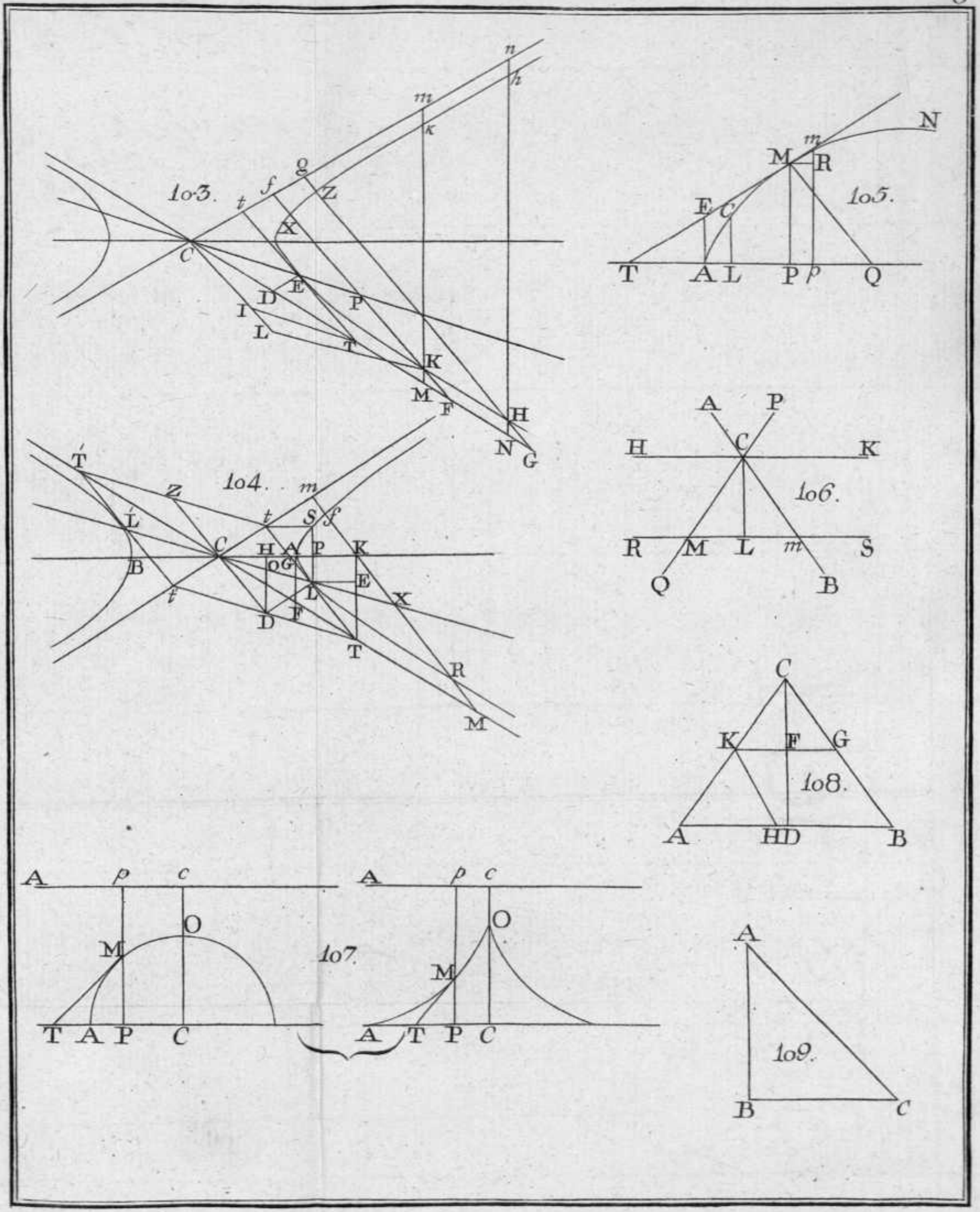
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1o5.
N m M R E C T A L P ρ Q
1o6.
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1o7.
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1o9.
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MATHE
DE
VILLA

TOM. IV.