

C A P V T L I I .

*De modo omnium operationum in quantitatibus medio modo notis.*

**D**ebes scire quod omnes operationes multiplicatio, diuisio, additio, detractio & inuentio in huiusmodi, est velut in partibus numerorum, velut volo multiplicare,

$$3 \quad \text{R}^{\circ}\text{. cu. } 7. \bar{m}. \text{R}^{\circ}\text{. cu. } 2.$$

per  
 $\text{R}^{\circ}\text{. } 6. \bar{p}. \text{R}^{\circ}\text{. } 5. \bar{p}. \text{R}^{\circ}\text{. } 3. \bar{m}. \text{R}^{\circ}\text{. } 2. \bar{m}. \text{I.}$     $\text{R}^{\circ}\text{. cu. } 5. \bar{m}. \text{R}^{\circ}\text{. cu. } 3. \bar{p}. \text{R}^{\circ}\text{. } 2.$   
 oportet ut ducas denominatores simul & fieri hoc

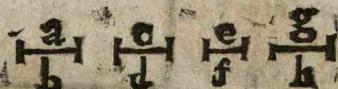
$$\text{R}^{\circ}\text{. cu. } 189. \bar{m}. \text{R}^{\circ}\text{. cu. } 54.$$

$$\text{R}^{\circ}\text{. } 12. \bar{p}. \text{R}^{\circ}\text{. } 10. \bar{p}. \text{R}^{\circ}\text{. } 6. \bar{m}. \text{I.}$$
    $\text{R}^{\circ}\text{. cu. } 2. \bar{p}. \text{R}^{\circ}\text{. cu. quad. } 5400. \bar{p}. \text{R}^{\circ}\text{. cu. quad. } 3125.$   
 $\bar{p}. \text{R}^{\circ}\text{. cu. quad. } 675. \bar{m}. \text{R}^{\circ}\text{. cu.}$   
 $\text{R}^{\circ}\text{. cu. } 189. \bar{m}. \text{R}^{\circ}\text{. cu. } 54.$

$$\text{quad. } 200. \bar{m}. \text{R}^{\circ}\text{. cu. } 5. \bar{m}. \text{R}^{\circ}\text{. cu. quad. } 1944. \bar{m}. \text{R}^{\circ}\text{. cu. quad. } 1125. \bar{m}. \text{R}^{\circ}\text{. } 243. \bar{p}. \text{R}^{\circ}\text{. cu. quad. } 72. \bar{p}. \text{R}^{\circ}\text{. cu. } 3.$$

Et similiter facies in diuisione additio-  
nib. ac detractionib. reducendo ad ideum  
genus quantitates simplices, & similiter in  
capiendo radicem. Velut capio radicem  
 $25.$

$$\begin{array}{l} 14. \bar{p}. \text{R}^{\circ}. 120. \bar{p}. \text{R}^{\circ}. 2. \bar{m}. \text{R}^{\circ}. 48. \bar{m}. \text{R}^{\circ}. \\ 24. \bar{m}. \text{R}^{\circ}. 10. \bar{m}. \text{R}^{\circ}. 5. \text{ capio } \text{R}^{\circ}. \text{cu. } 25. \& \text{est } 5. \& \text{ capio radicem infra scripti denomi-} \\ \text{natoris, \& est } \text{R}^{\circ}. 6. \bar{p}. \text{R}^{\circ}. 5. \bar{m}. \text{R}^{\circ}. 2. \bar{m}. \\ \text{I. \& habeo } \frac{5}{16} \text{ ductum} \\ \text{hoc ad veram quantitatem per sua con-} \\ \text{traria fieri diuisor, qui sit } b, \& \text{ qui di-} \\ \text{uiditur multorum nominum } a, \& s. \end{array}$$



diuisus c. &  $\text{R}^{\circ}. 6. \bar{p}. \text{R}^{\circ}. 5. \bar{m}. \text{R}^{\circ}. 2. \bar{m}. 1.$  dicatur d & dicatur 25. numerator primus & suus denominator septem nominum f. Quia ergo a ad b vt c ad d & e ad f vt c ad d duplicata erit e ad f vt a ad b duplicata. Igitur si ducantur a & b in se, & producantur g & h erit h. numerus, & g. h proportio nota, & est g ad h. vt e ad f igitur g ad f nota. Et haec est sexta operatio propria quantitatibus mediis.

Per 20. sexti  
Elem.

C A P V T L I I I .

*De diligentि consideratione quorundam superius dictorum.*

**E**t iam dicamus quod cubus æqualis sit  $\text{R}^{\circ}. 12.$  rebus p. 20. & rei æstimatione est  $\text{R}^{\circ}. \text{cub. } 16. \bar{p}. \text{R}^{\circ}. \text{cu. } 4.$  & haec potest tribui dando 20. numerum cubis similiter, & potest idem numerus dari ambobus cubis & duobus mutuis, & etiam ambobus cubis & quatuor mutuis parallelipedis, & ita trifariam: consideremus ergo postquam capitulum.

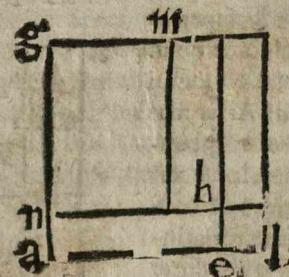
*Tom. IV.*

li inuentio, ac regula cum demonstratione sumpta fuit, per primum modum. Sumemus ergo cubum dimidiæ æstimationis, id est  $\text{R}^{\circ}. \text{cu. } 2. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{2}$ , & est  $2 \frac{1}{2} \bar{p}. \text{R}^{\circ}. \text{cu. } 54.$   $\bar{p}. \text{R}^{\circ}. \text{cu. } 13 \frac{1}{2}$ , & duplum eius quod est minimum, quod possit produci ex diuisione æstimationis est  $5. \bar{p}. \text{R}^{\circ}. 43 \frac{1}{2} \bar{p}. \text{R}^{\circ}. \text{cu. } 108.$  liquet igitur non posse diuidi sic hanc  $\text{R}^{\circ}$ . propter numeri paruitatem, nam cubus totius esset 20.  $\bar{p}. \text{R}^{\circ}. \text{cu. } 27648.$   $\bar{p}. \text{R}^{\circ}. \text{cu. } 6912.$  Sin autem capiamus 1. cu. æqualem 12. rebus p. 34. erit æstimatione  $\text{R}^{\circ}. \text{cu. } 32. \bar{p}. \text{R}^{\circ}. \text{cu. } 2.$  & duplum cubi dimidiæ  $8 \frac{1}{2} \bar{p}. \text{R}^{\circ}. \text{cu. } 1024.$   $\bar{p}. \text{R}^{\circ}. \text{cu. } 54.$  & hoc totum est proximum  $22 \frac{1}{2}$  ideo duo mutua poterunt contineri in  $1 \frac{1}{2}$  diuides ergo 34. per  $\text{R}^{\circ}. \text{cu. } 32. \bar{p}. \text{R}^{\circ}. \text{cu. } 2.$  exit  $\text{R}^{\circ}. \text{cu. } 1024.$   $\bar{m}. \text{R}^{\circ}. \text{cu. } 64.$  quod est 4.  $\bar{m}. \text{R}^{\circ}. \text{cu. } 4.$  & hoc oportet esse æquale duobus quadratis, fac ergo ex  $\text{R}^{\circ}. \text{cu. } 32. \bar{p}. \text{cu. } 2.$  duas partes, quarum quadrata sint æqualia trinomio illi accipe ergo dimidium trinomij, & est  $\text{R}^{\circ}. \text{cu. } 128. \bar{m}. 2. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{2}$  à quo aufer quadratum dimidiæ diuidendi, id est quadratum  $\text{R}^{\circ}. \text{cu. } 4. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{4}$  & est  $\text{R}^{\circ}. \text{cu. } 16. \bar{p}. \text{cu. } \frac{1}{16}$  detrahe, relinquetur  $\text{R}^{\circ}. \text{cu. } 54.$   $\bar{m}. 4. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{16}$  huius igitur  $\text{R}^{\circ}. \text{v.}$  addita & detracta ostendit partes hoc modo. Iam er-

$$\begin{array}{l} \text{R}^{\circ}. \text{cu. } 4. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{4} \bar{p}. \text{R}^{\circ}. \text{V}^{\text{ma}} \text{R}^{\circ}. \text{cu. } 54. \bar{p}. \\ \text{R}^{\circ}. \text{cu. } \frac{1}{16} \bar{m}. 4 \\ \text{R}^{\circ}. \text{cu. } 4. \bar{p}. \text{R}^{\circ}. \text{cu. } \frac{1}{4} \bar{m}. \text{R}^{\circ}. \text{V}^{\text{ma}} \text{R}^{\circ}. \text{cu. } 54. \bar{p}. \\ \text{R}^{\circ}. \text{cu. } \frac{1}{16} \bar{m}. 4 \end{array}$$

go vides quod cubus æquatur 34. ita quod 34. numerus est æqualis duobus cubis cum duobus mutuis partium & quia residuum est numerus rerum, & est duplum mutuorum diuisio eo per rem, exhibet numerus rerum quem constat esse eundem.

Proponatur ergo a b & c d 4. & sint res & sint earum quadrata b g d k sit autem a b diuisa in e. vt cubi g h, h b sint quadriginta, & erunt b res p. 40. æqualia toti cu-



bo, & idè auferatur m h æqualis a h erunt igitur tres illæ superficies b & iuxta altitudinem a b, b es & ex a b in m n & h b 40. & a c erit  $\text{R}^{\circ}. \text{v. cu. } 20. \bar{p}. \text{R}^{\circ}. 392.$  & e b.  $\text{R}^{\circ}. \text{v. cu. } 20. \bar{m}. \text{R}^{\circ}. 392.$  & sit e f 3. & f d erit 1. & cubi k l & l d cum duobus muruis corporibus, & hoc est quantum sit ex c d in k l l d iterum 40. & erunt superficies k l & l d 10. & æquales necessario superficiebus m n & h b quia & ipsæ ductæ in a b quæ est æqualis c d producit 40. Igitur quia volo in prima superficie quod soli cubi æquales sint 40. & in secunda quod cubi cum duobus corporibus mutuis efficiant idem 40. & quod æstimatione sit eadem, igit-