

Deskriptivní geometrie

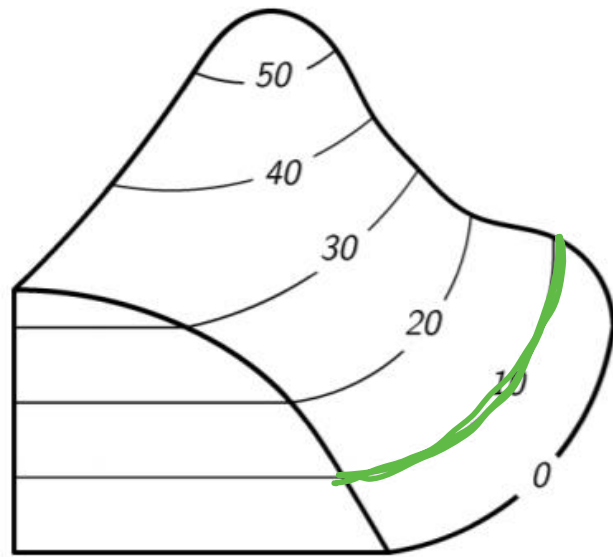
Topografické plochy

Křivka konstantního spádu

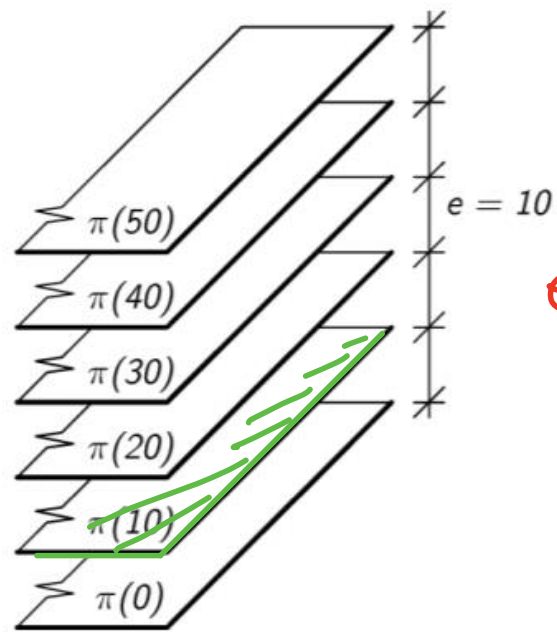
Spojení dvou bodů křivkou konstantního spádu

Křivka největšího spádu

Topografická plocha

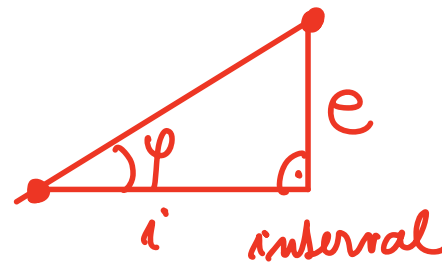


vrstevnice



ekvidistance

Měřítko



$$s \dots \text{spad}$$
$$s = \tan \varphi$$

Měřítko $1 : M$, kde $M > 1$, udává, v jakém poměru je úsečka délky d změřená na mapě k odpovídající úsečce délky D ve skutečnosti (rozměry jsou udávány v centimetrech).

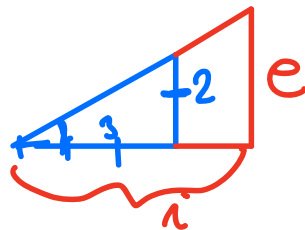
Měřítko $1 : 100\,000$ tedy znamená, že úsečka délky $d = 5\text{ cm}$ na mapě má ve skutečnosti délku $D = 5 \cdot 100\,000\text{ cm} = 500\,000\text{ cm} = 5\text{ km}$.

Mapy zobrazují skutečnost ve velkém zmenšení, např. $1 : 500\,000$, a vrstevní roviny mají větší ekvidistanci (typicky desítky až stovky metrů) zatímco plány zobrazují objekty, silnice atp. v malém zmenšení, např. $1 : 1\,000$, a používají menší ekvidistanci (celé metry až čtvrtiny metru). Mapy i plány musí mít uvedeny měřítko, v jakém jsou zhotoveny.

$$e = s \cdot i$$

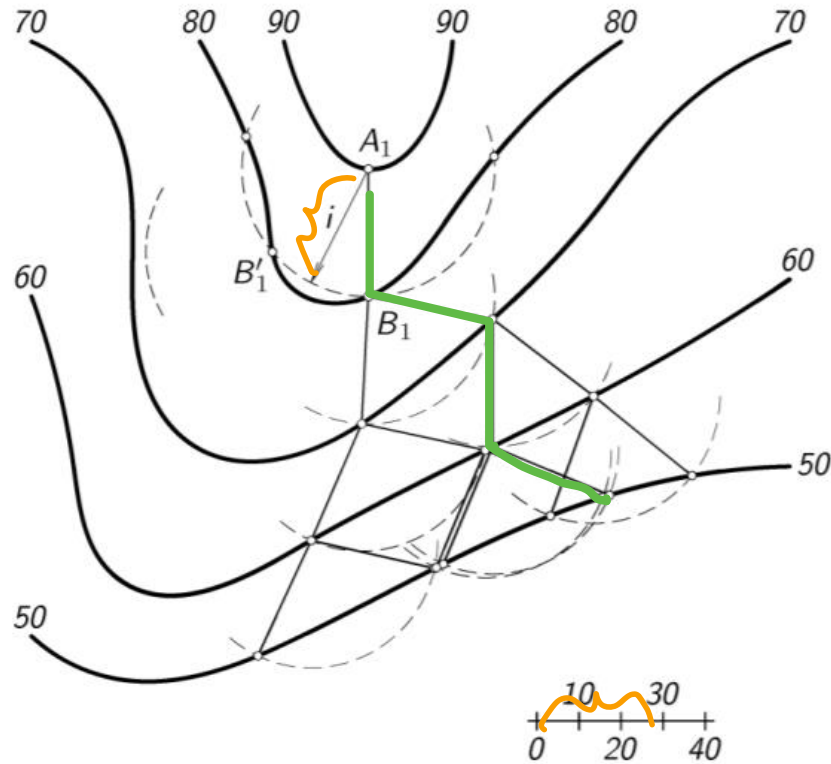
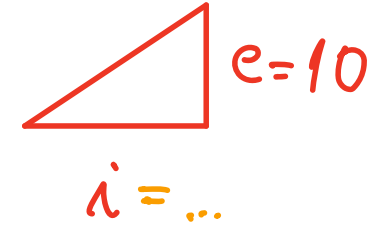
$$i = \frac{e}{s}$$

$$s = 2:3$$



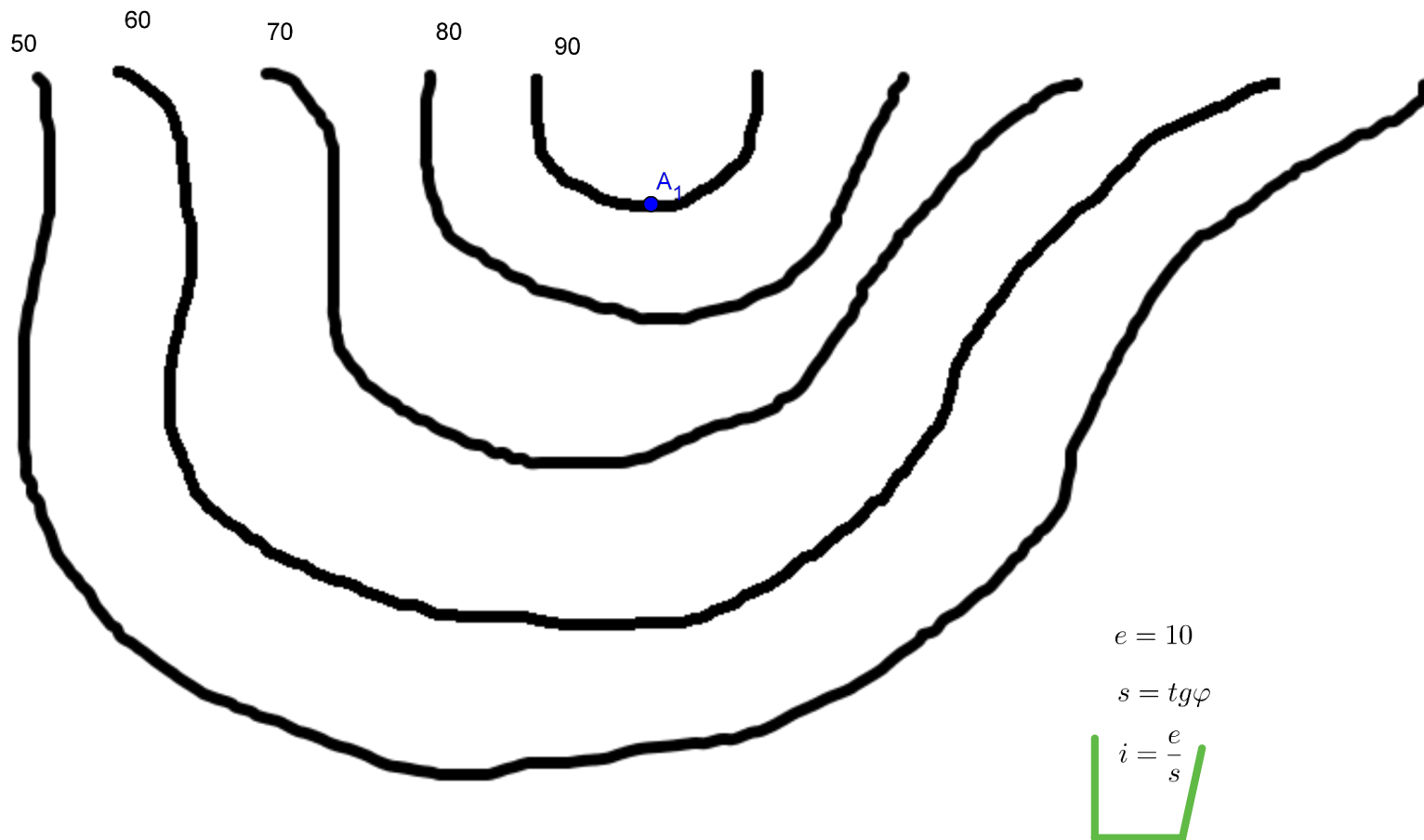
$$s = \frac{e}{i}$$

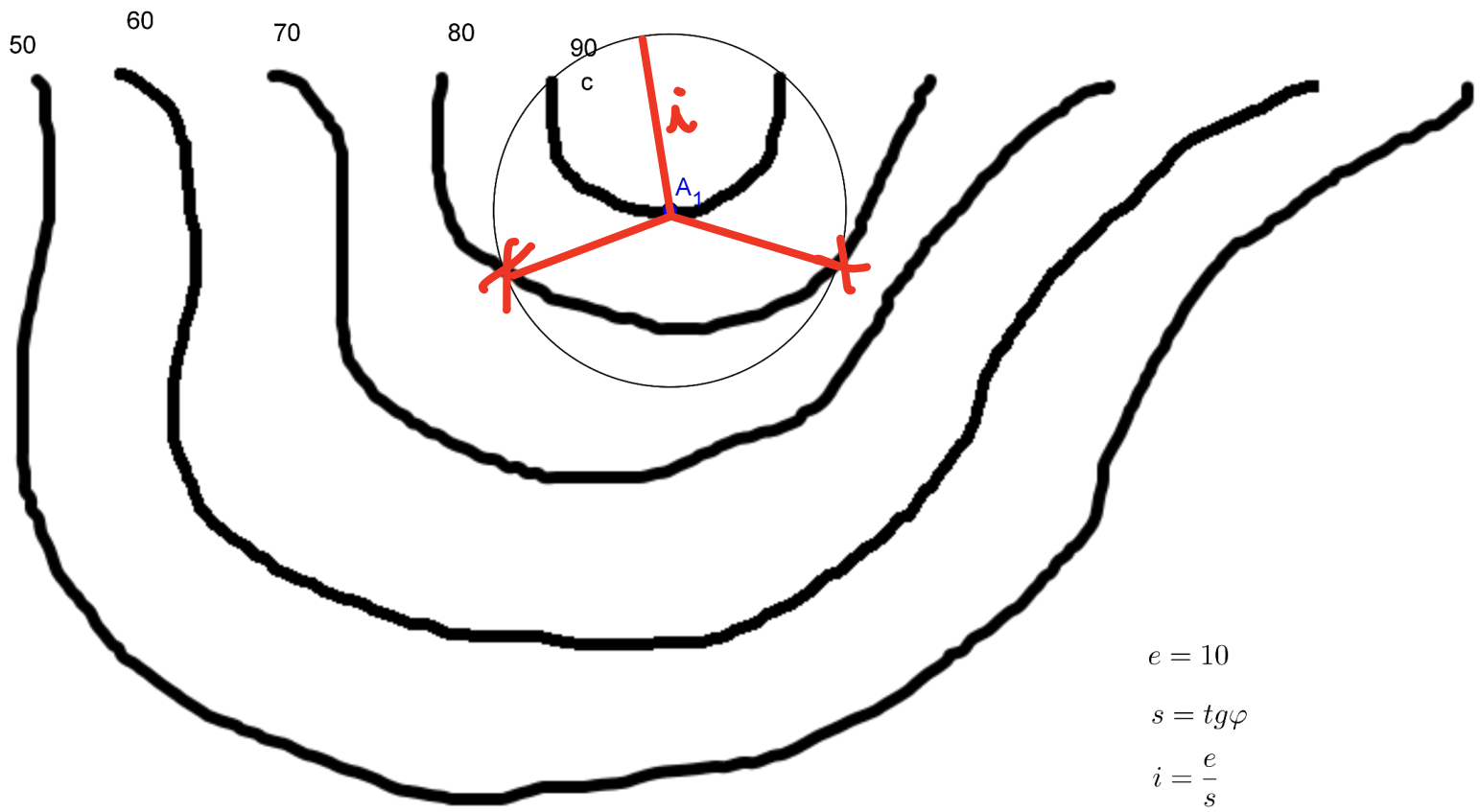
Křivka konstantního spádu



Křivka konstantního spádu

V daném vrstevnicovém plánu sestrojte křivku konstantního spádu.



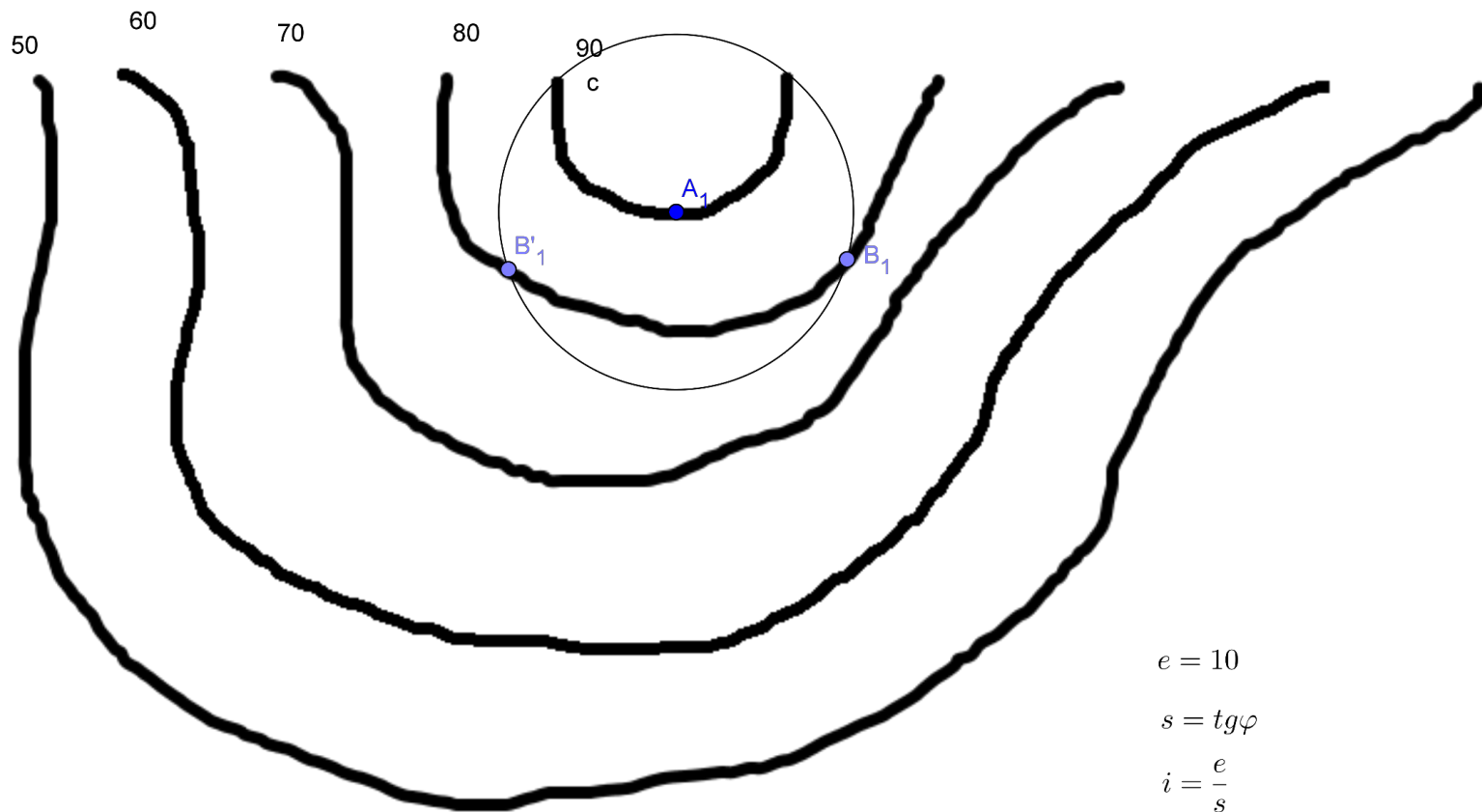


$$e = 10$$

$$s = tg\varphi$$

$$i = \frac{e}{s}$$

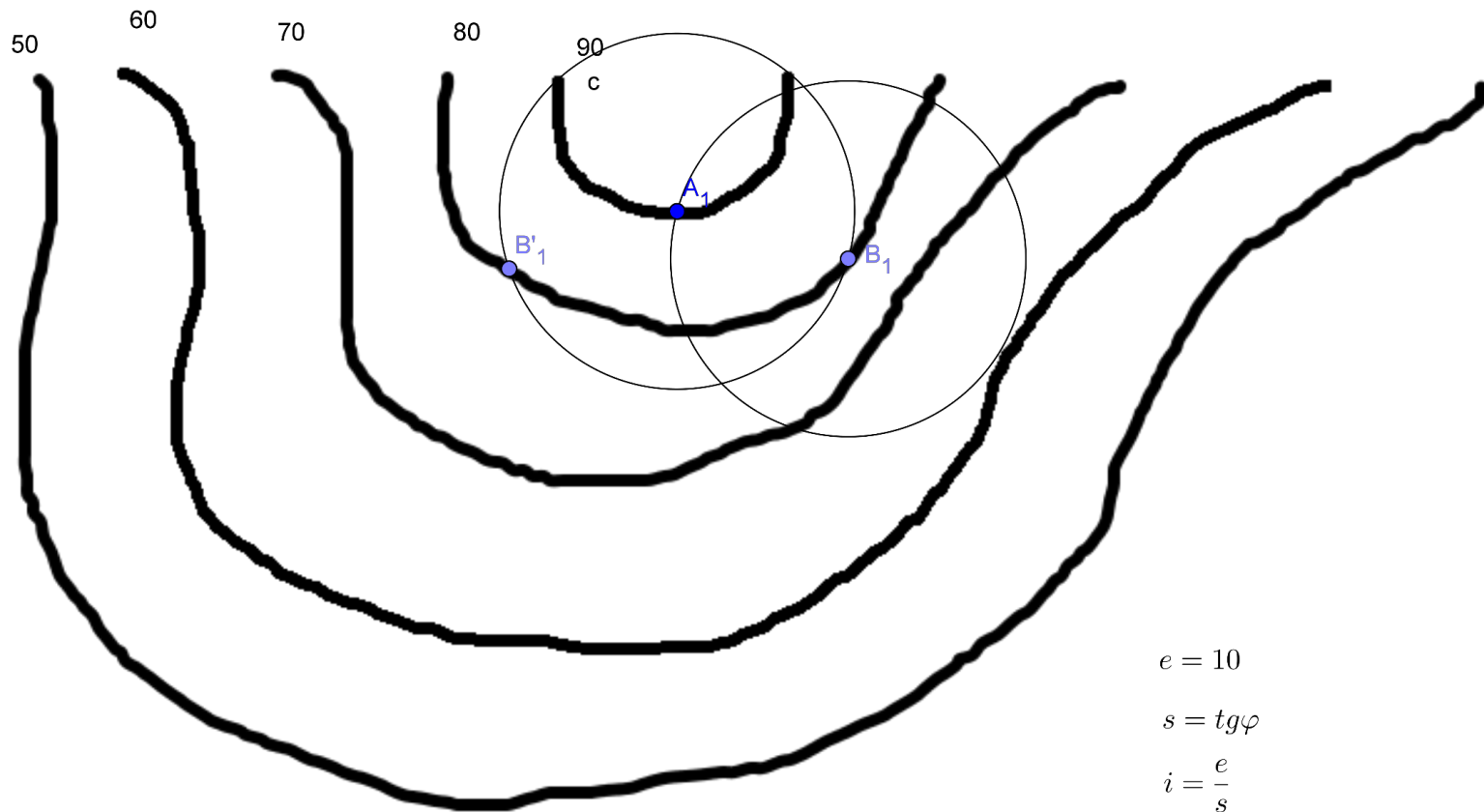




$$e = 10$$

$$s = tg\varphi$$

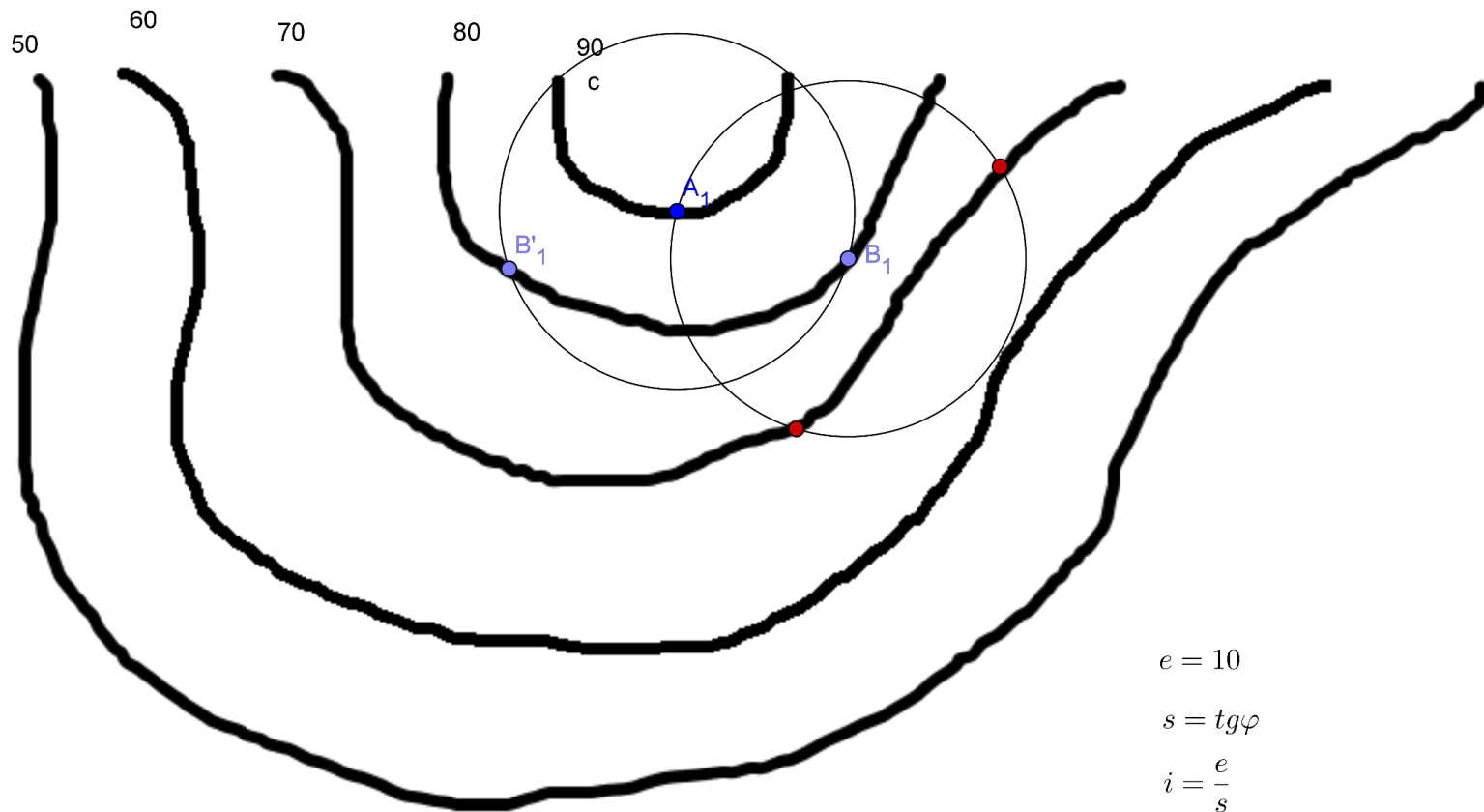
$$i = \frac{e}{s}$$

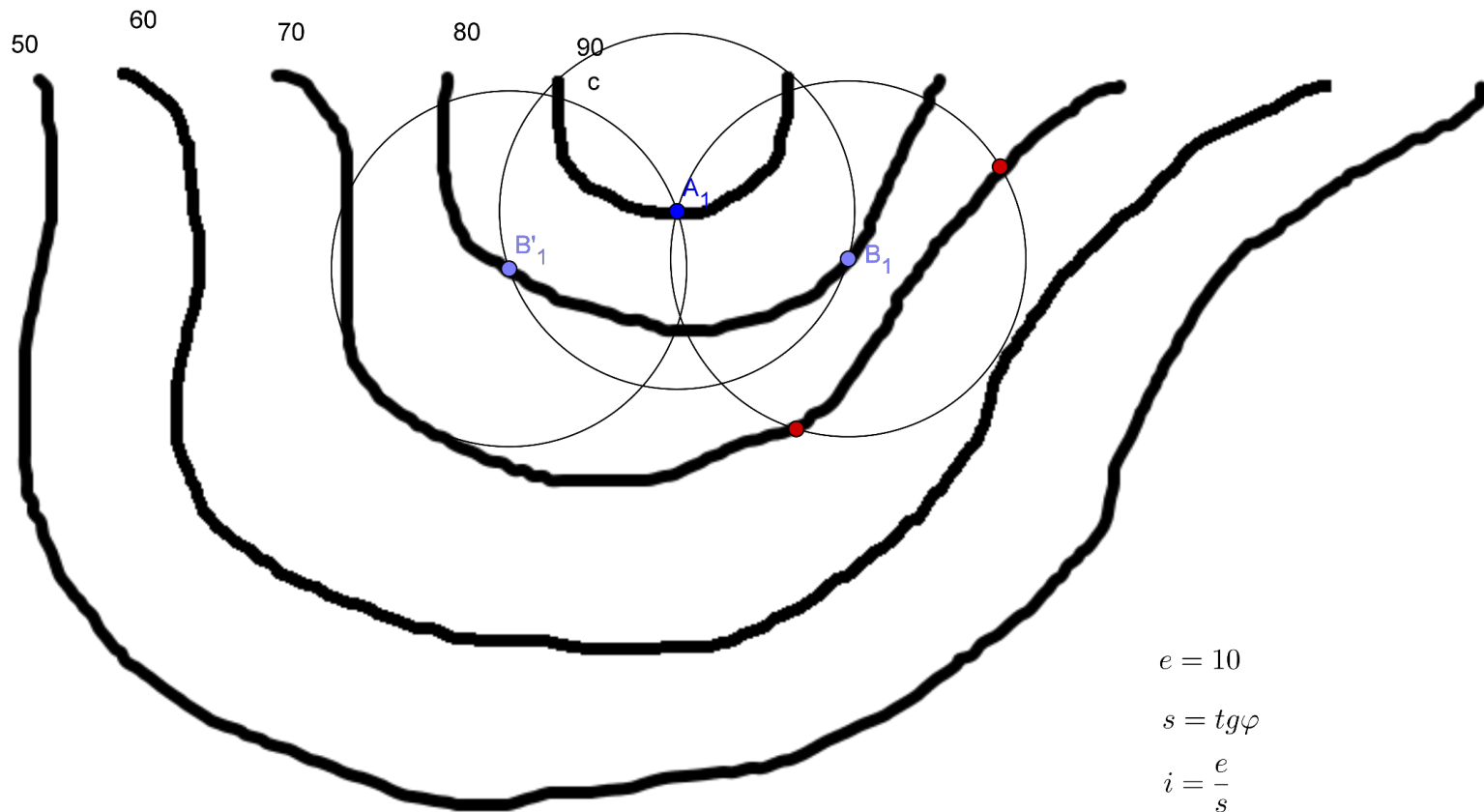


$$e = 10$$

$$s = tg\varphi$$

$$i = \frac{e}{s}$$

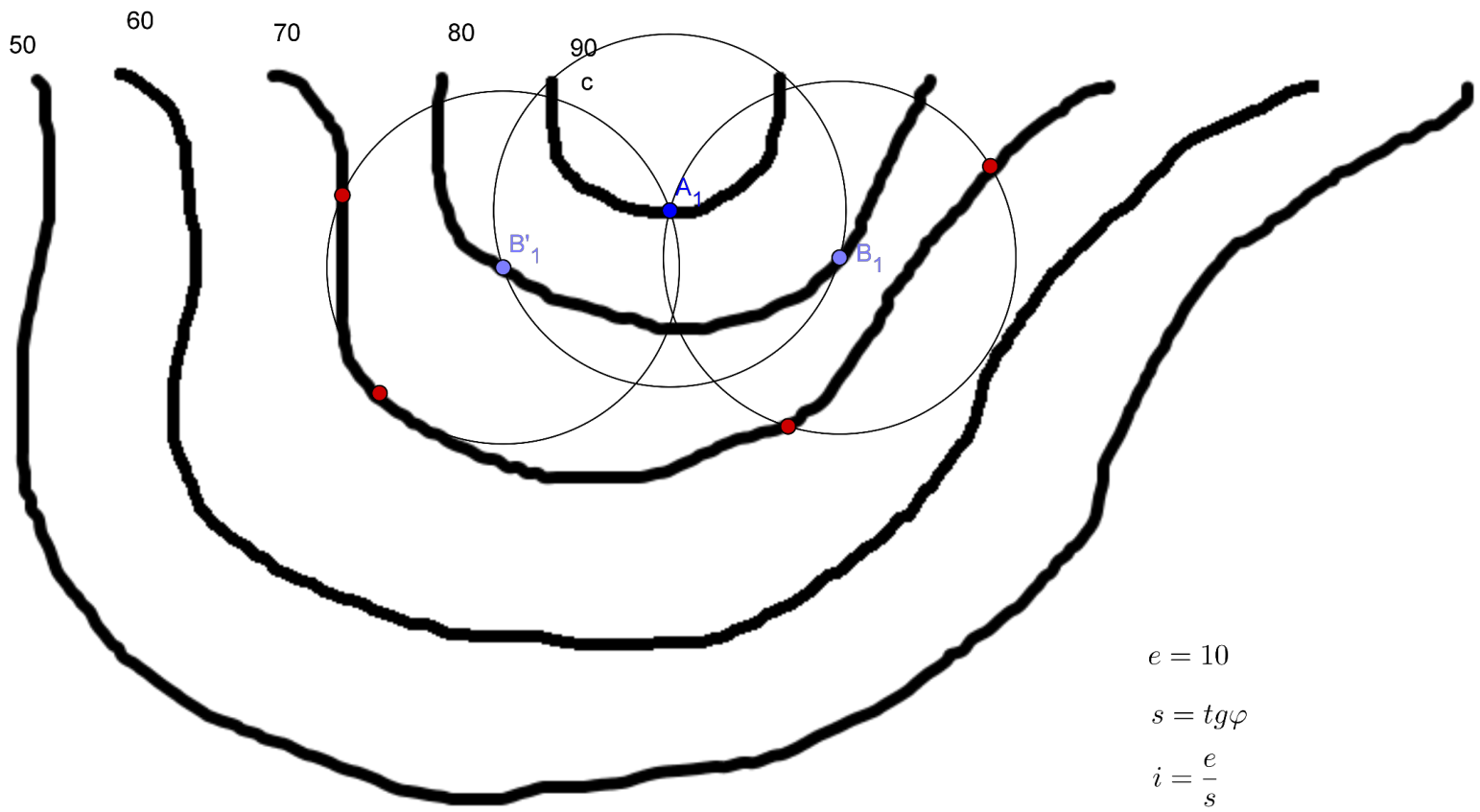


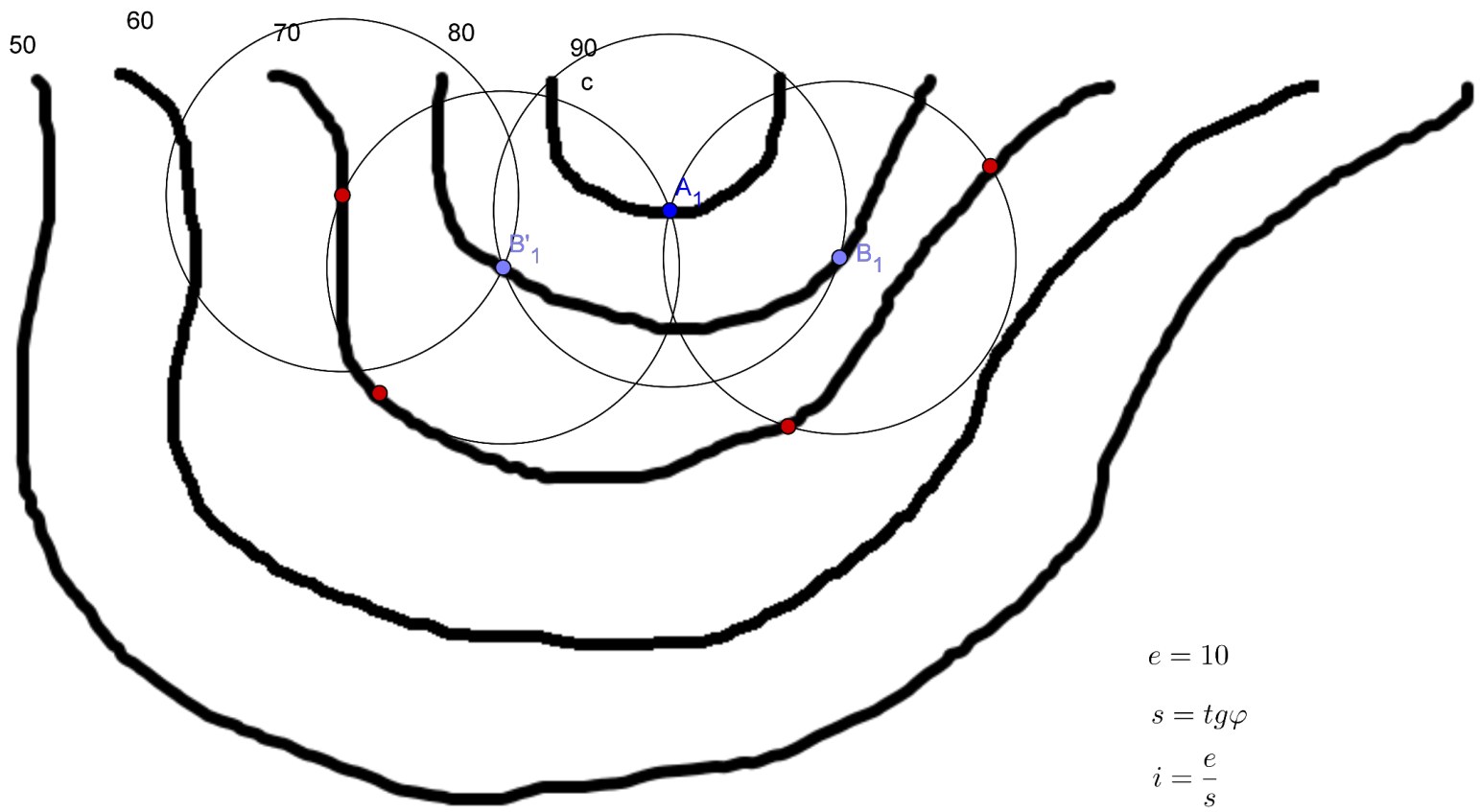


$$e = 10$$

$$s = tg\varphi$$

$$i = \frac{e}{s}$$

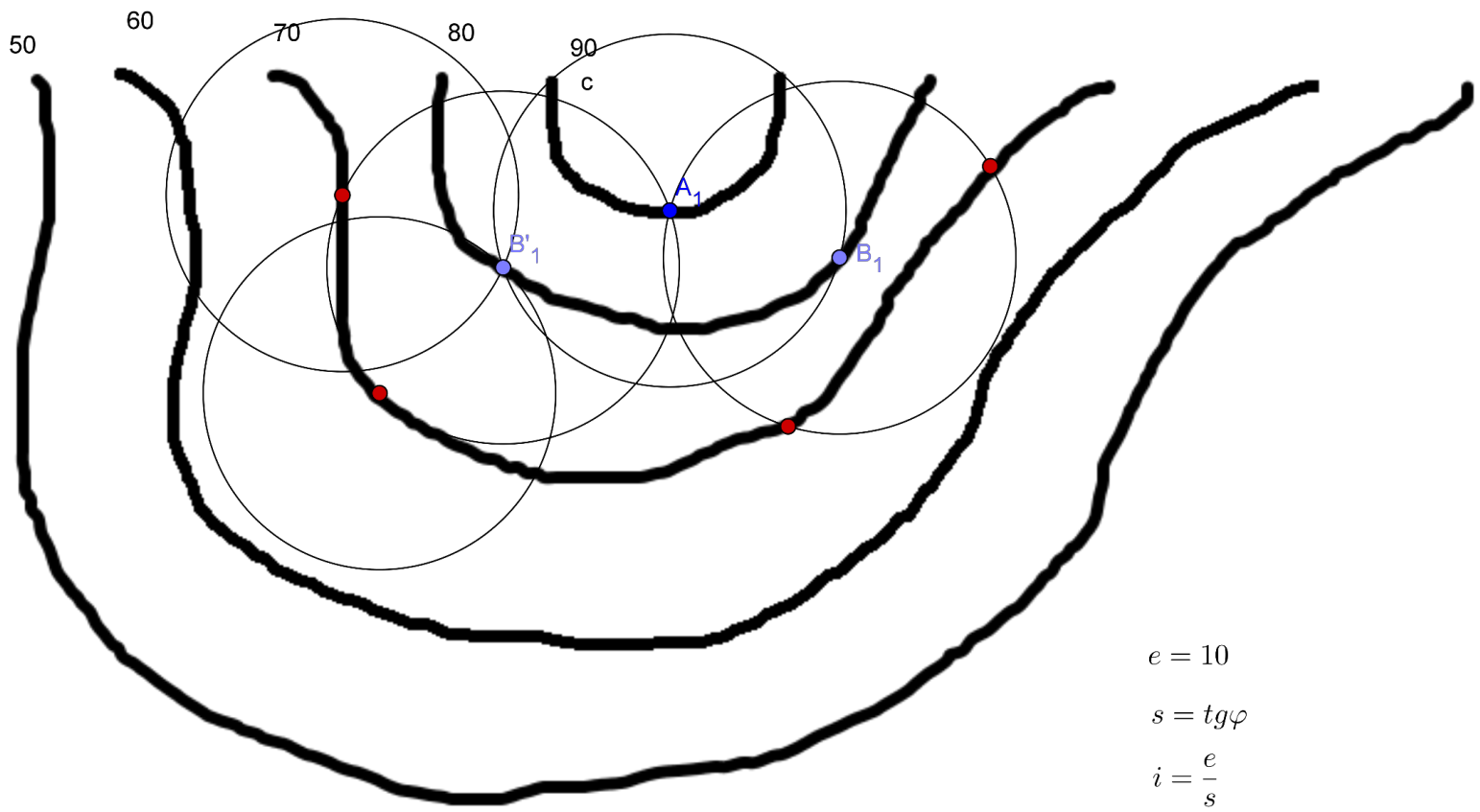


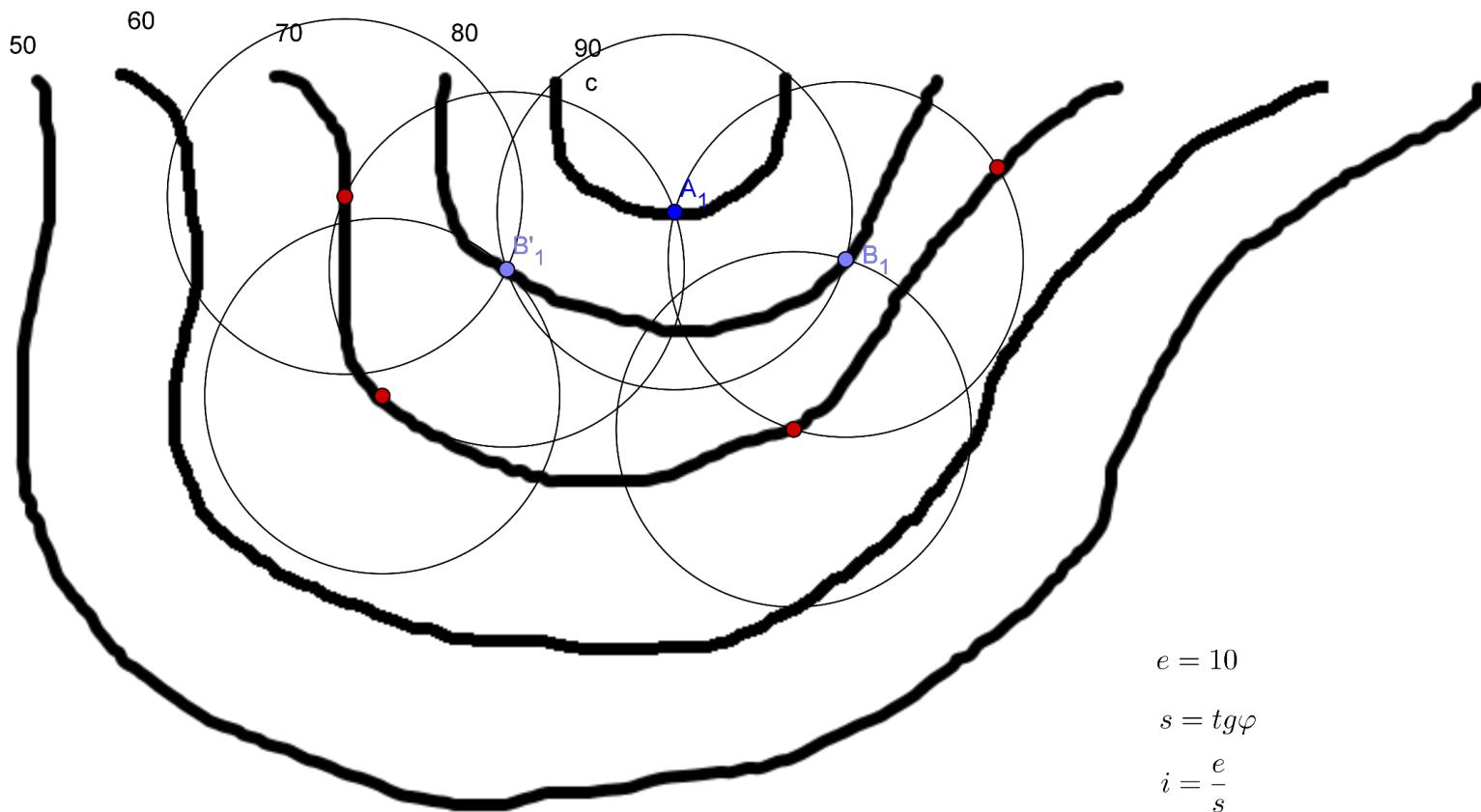


$$e = 10$$

$$s = tg\varphi$$

$$i = \frac{e}{s}$$

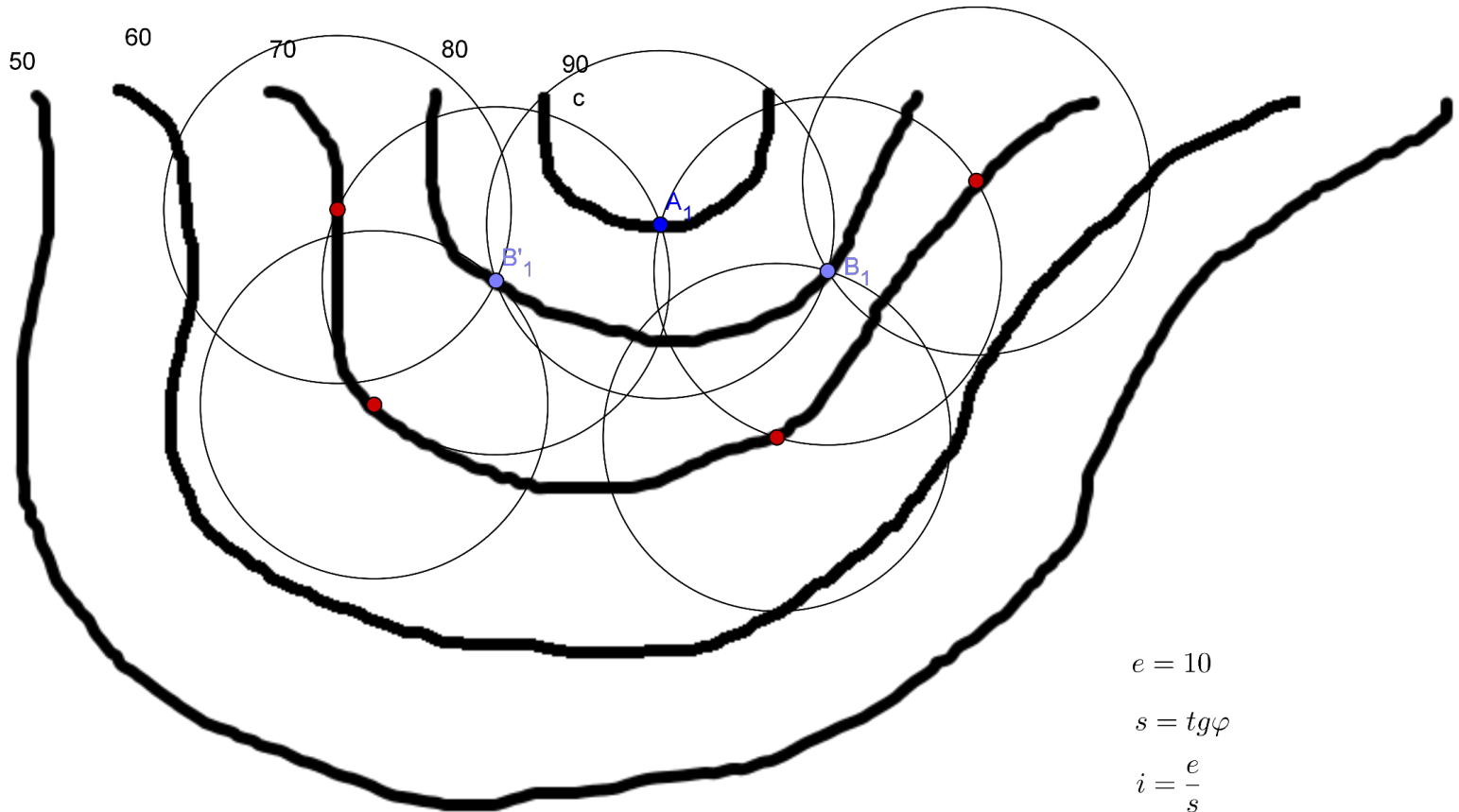




$$e = 10$$

$$s = tg\varphi$$

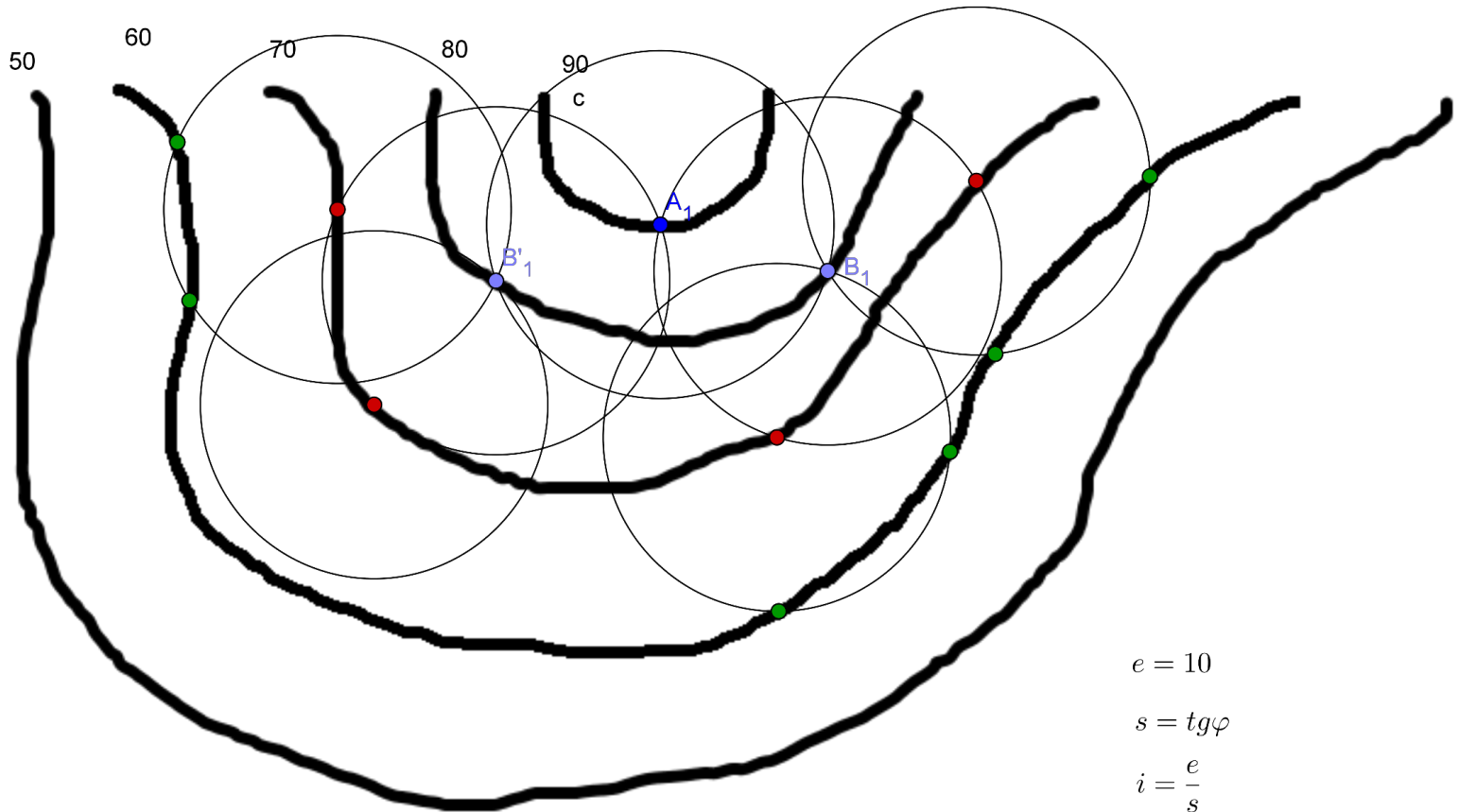
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

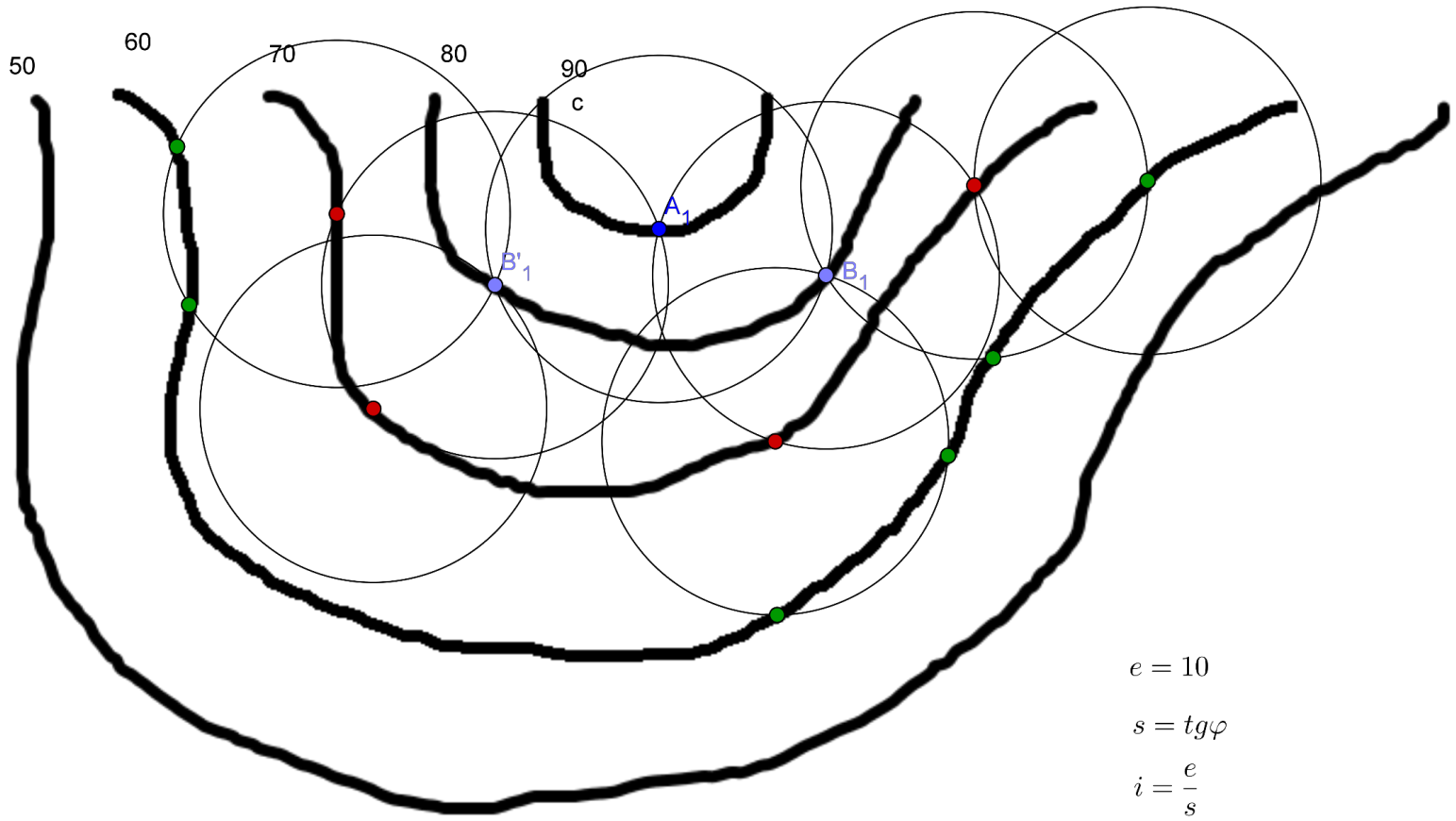
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

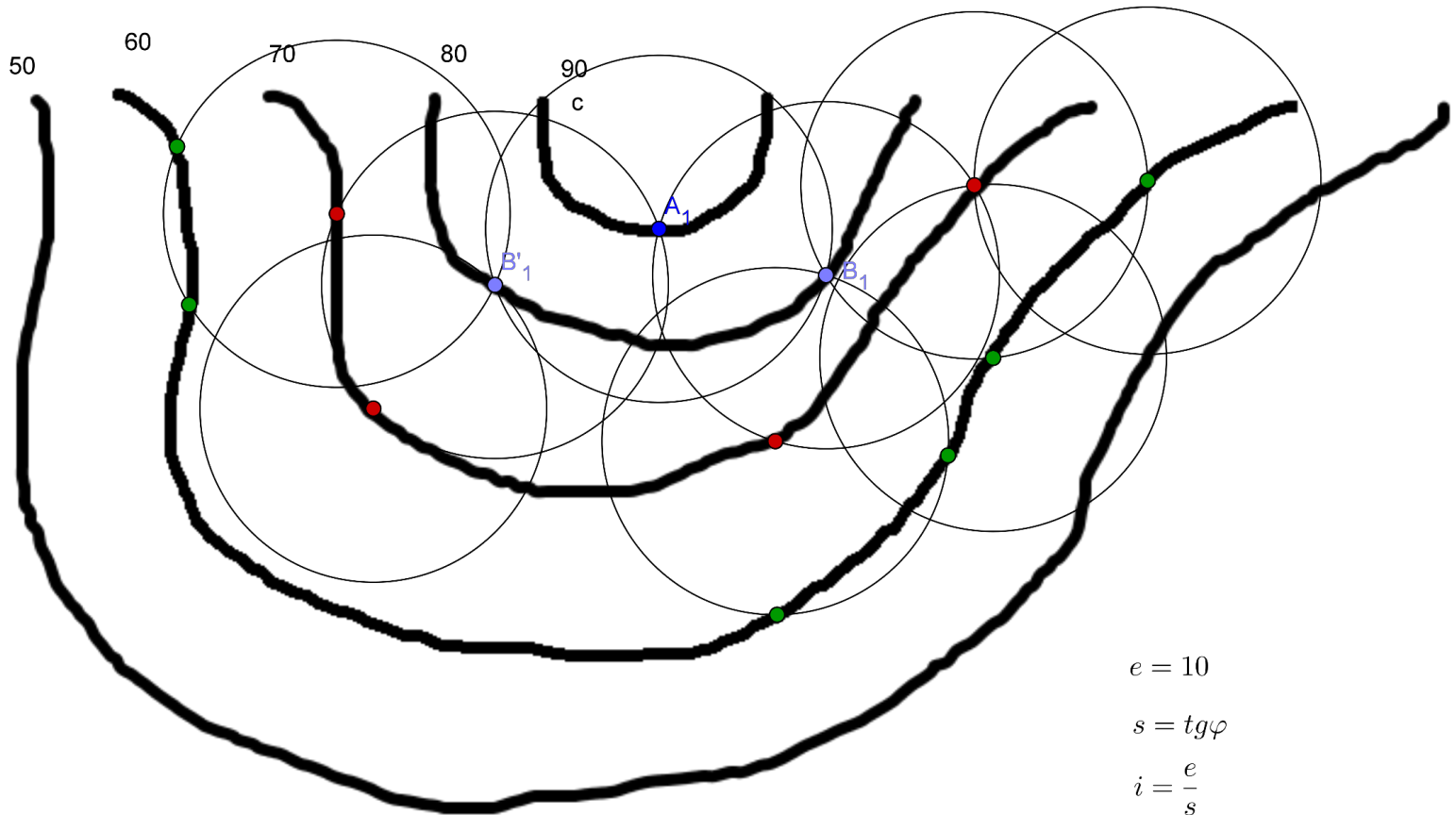
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

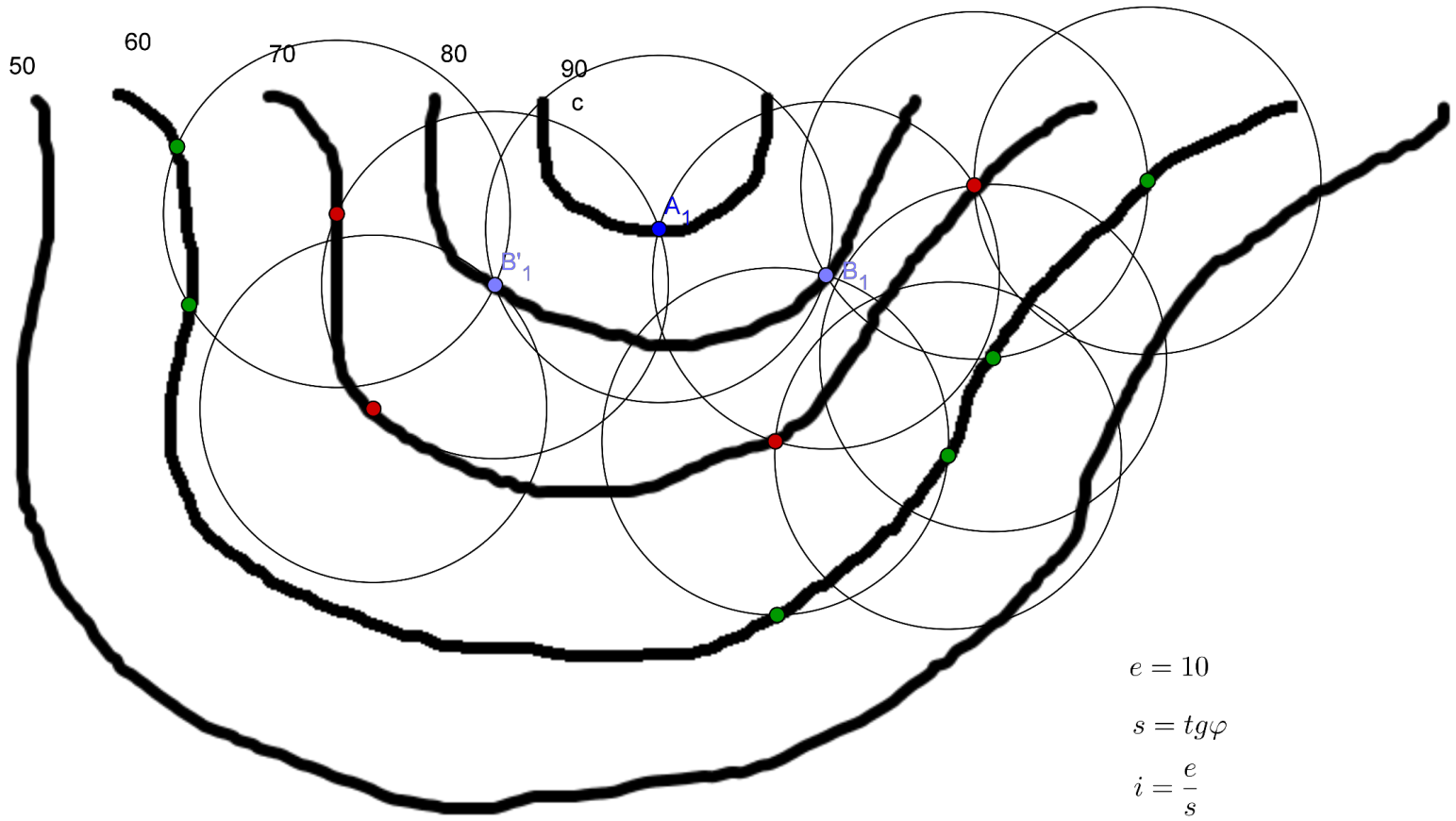
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

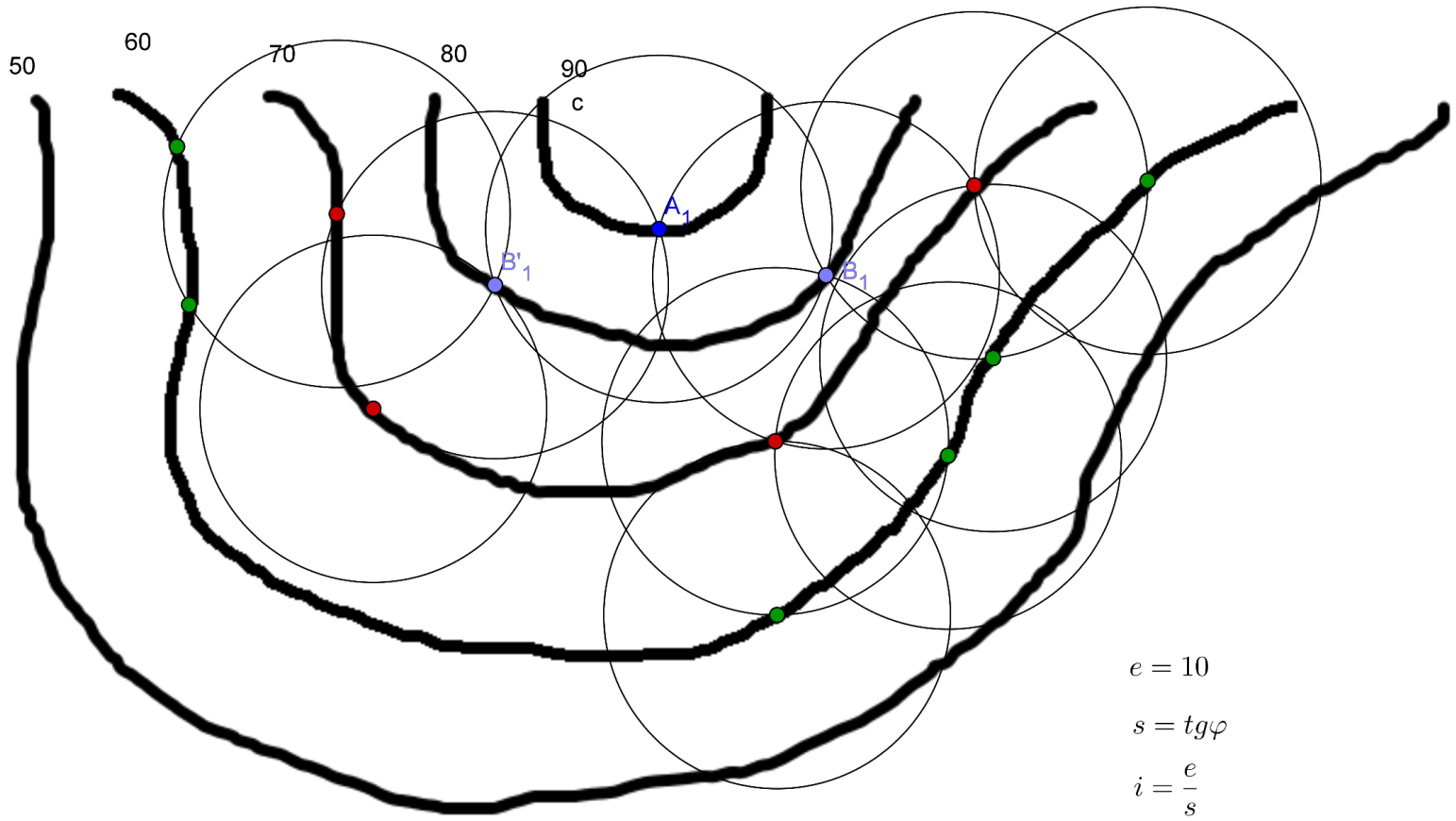
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

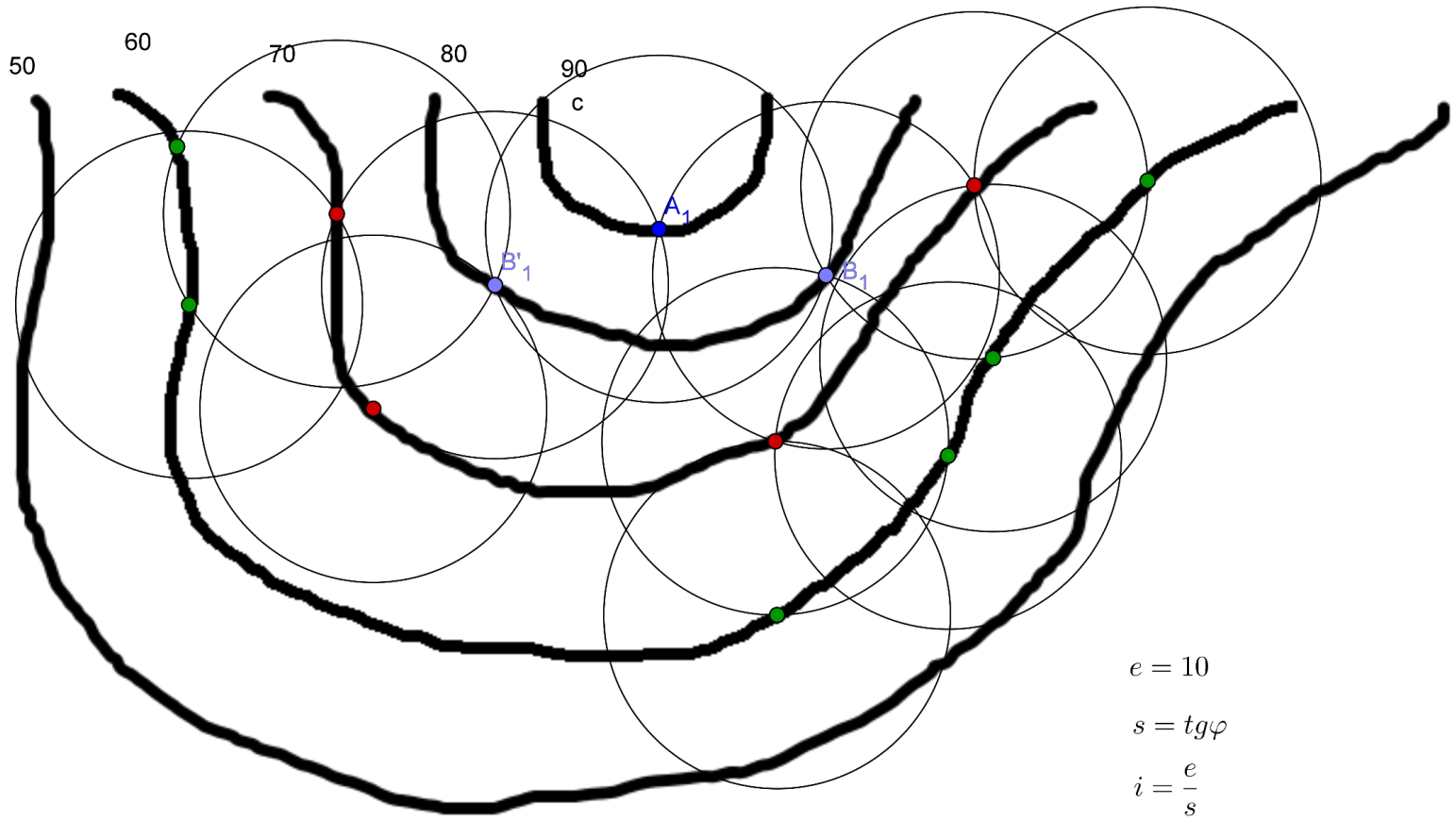
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

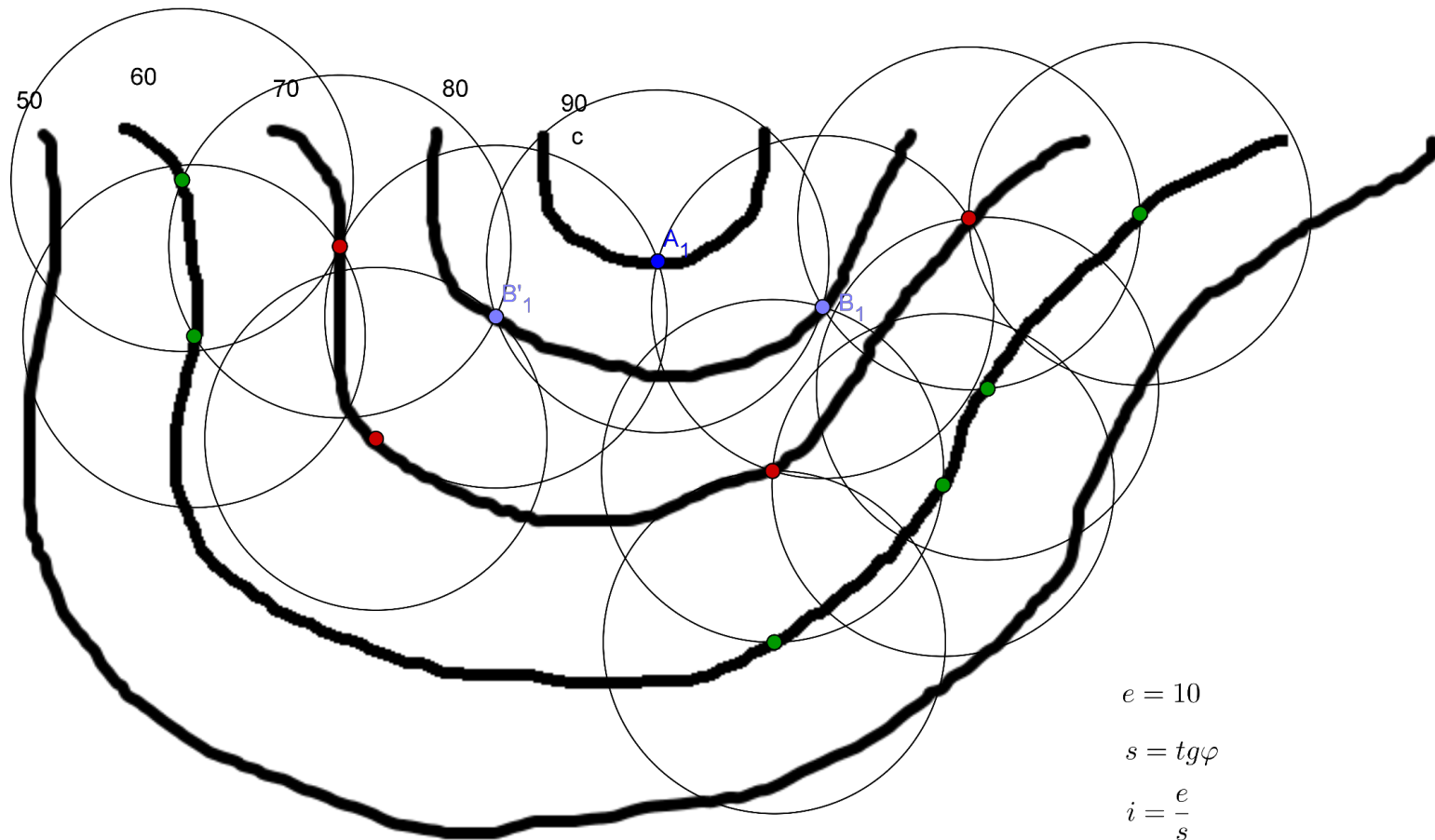
$$i = \frac{e}{s}$$



$$e = 10$$

$$s = tg\varphi$$

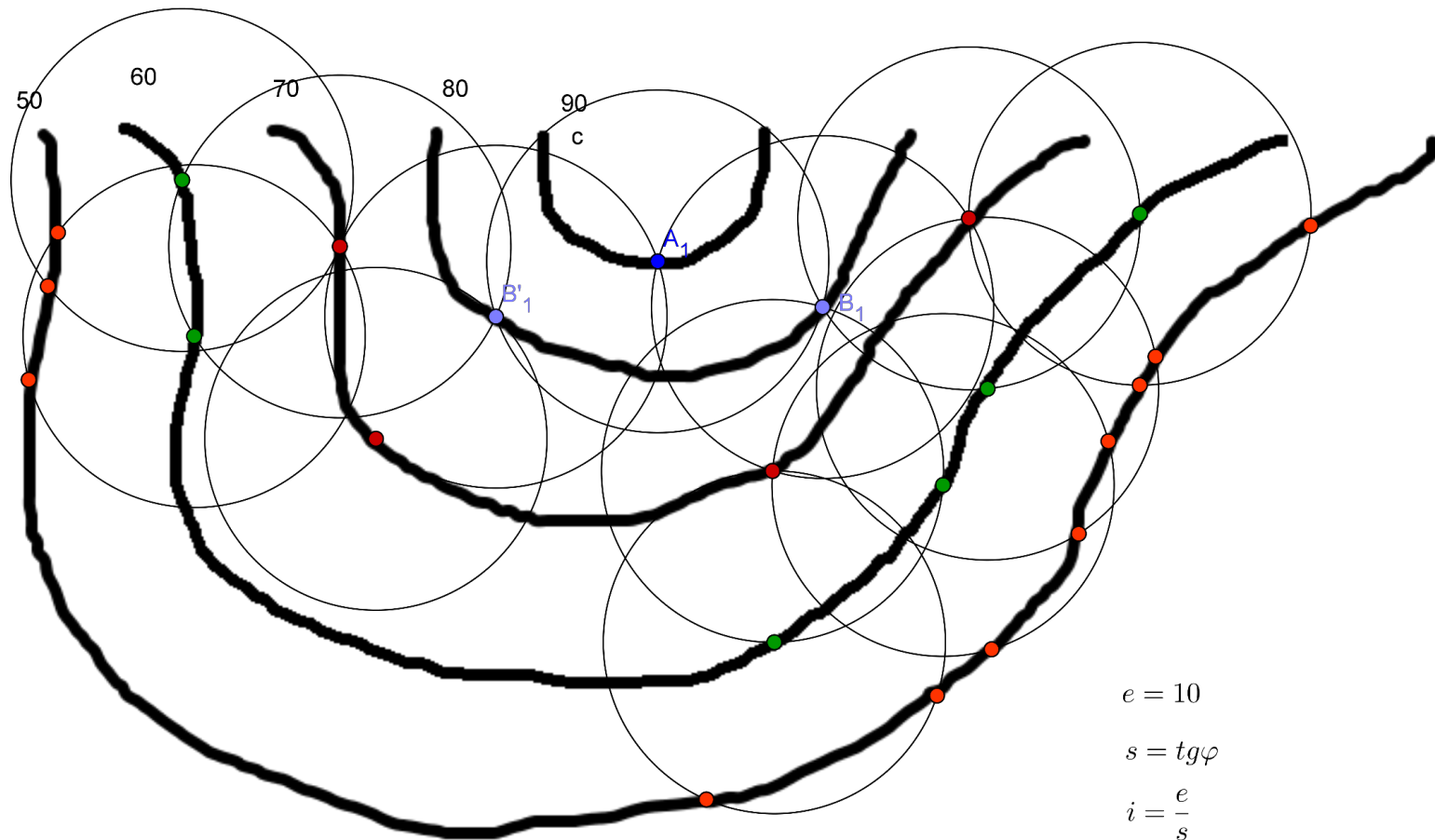
$$i = \frac{e}{s}$$

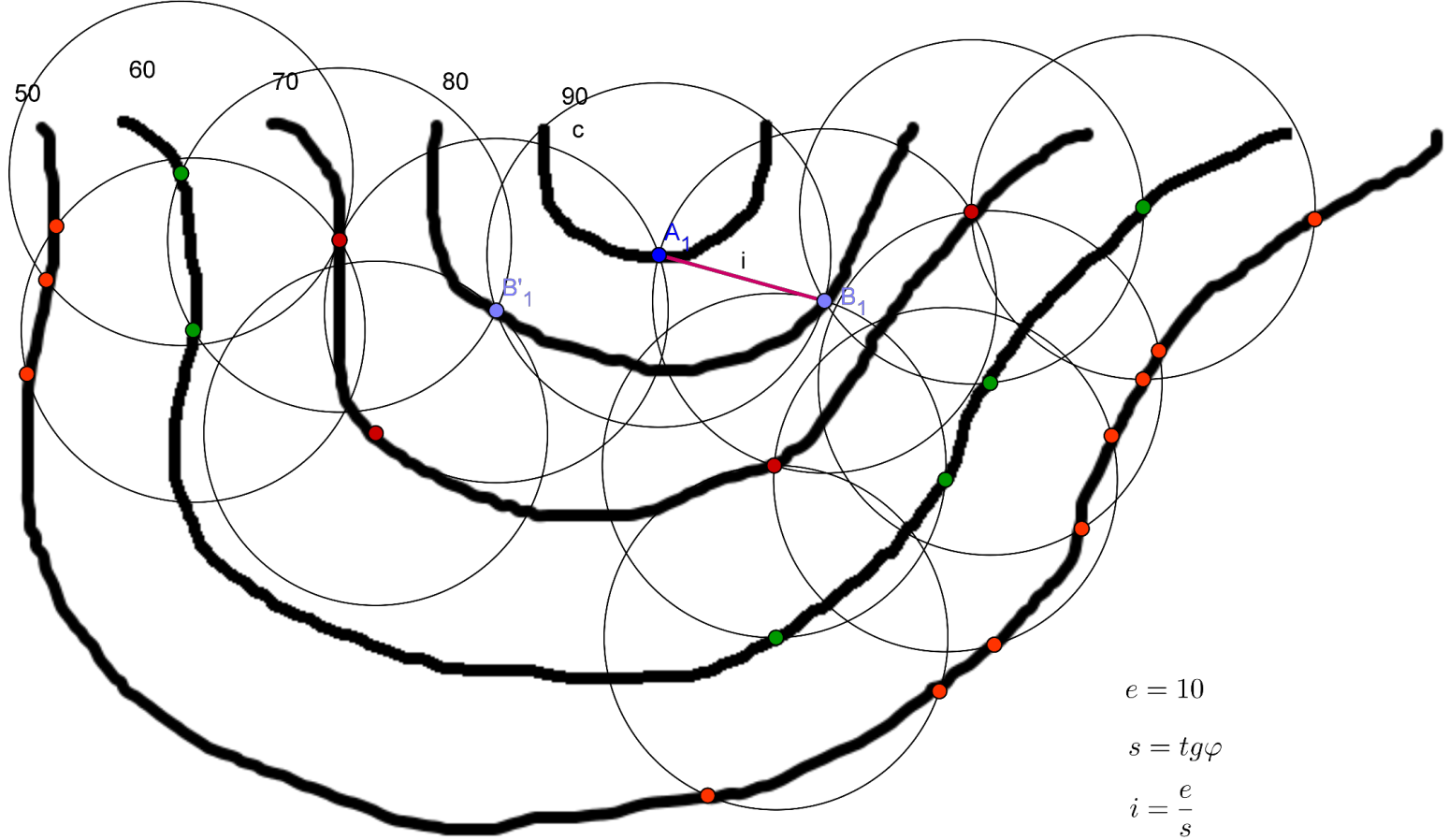


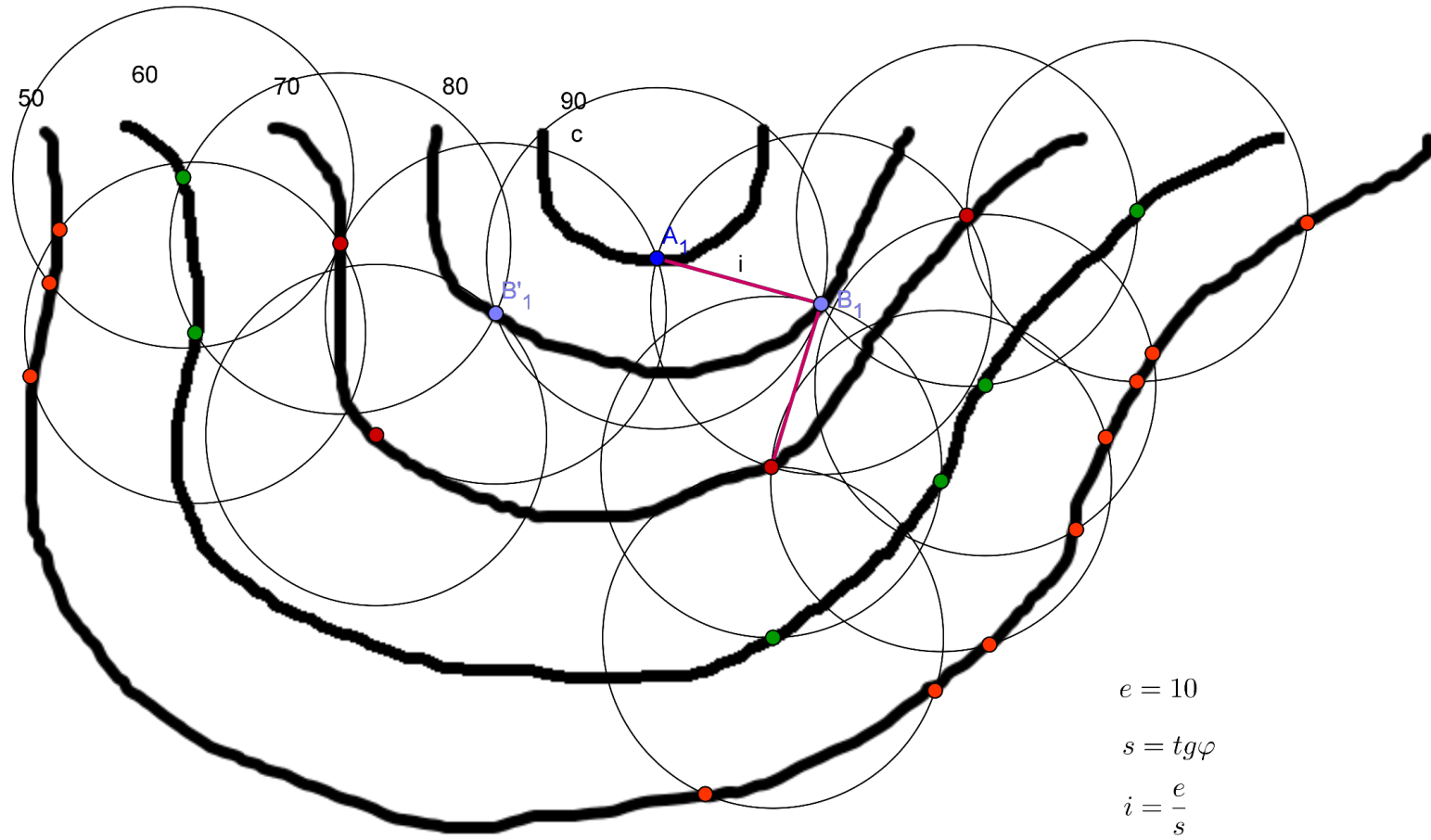
$$e = 10$$

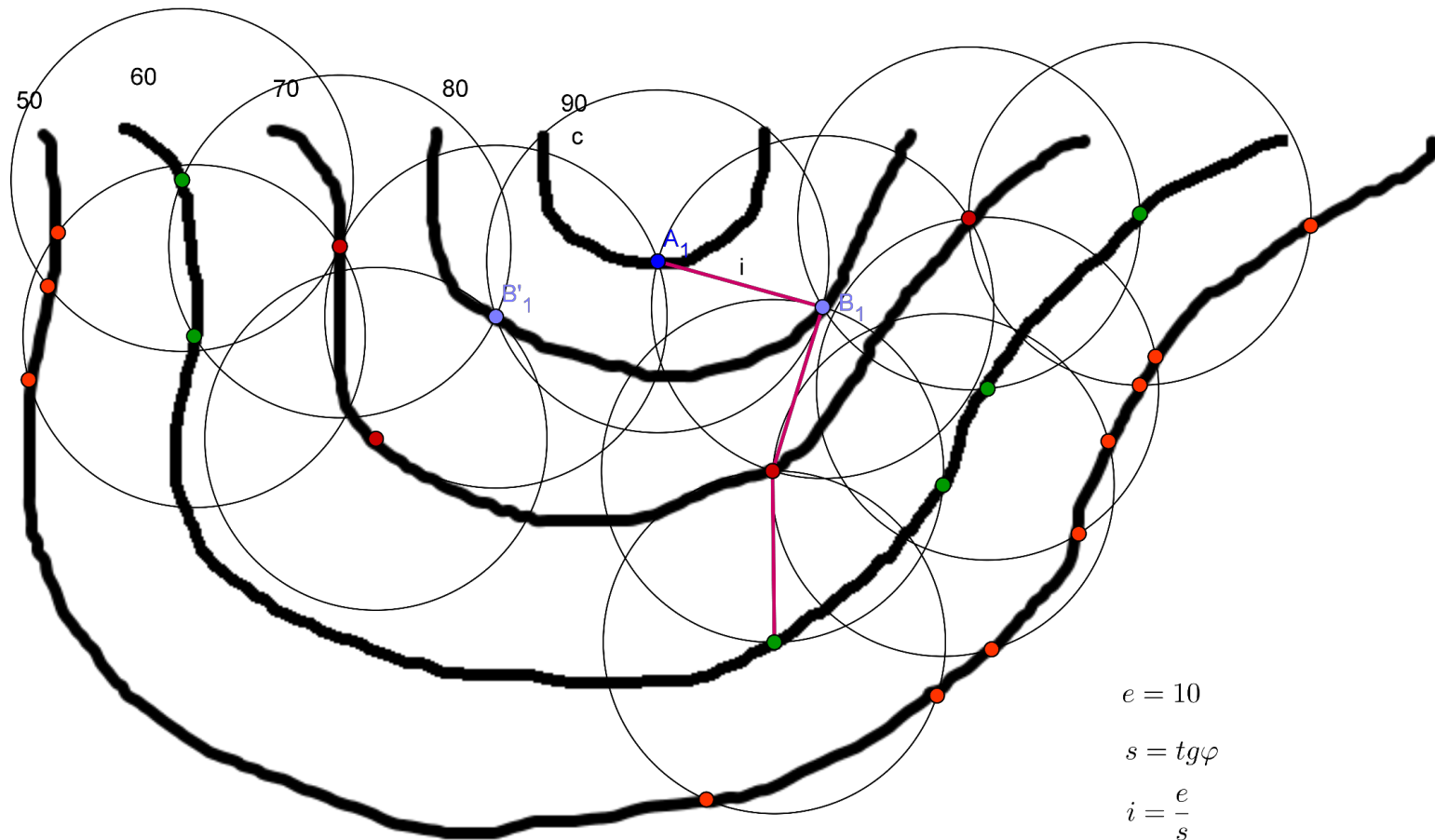
$$s = tg\varphi$$

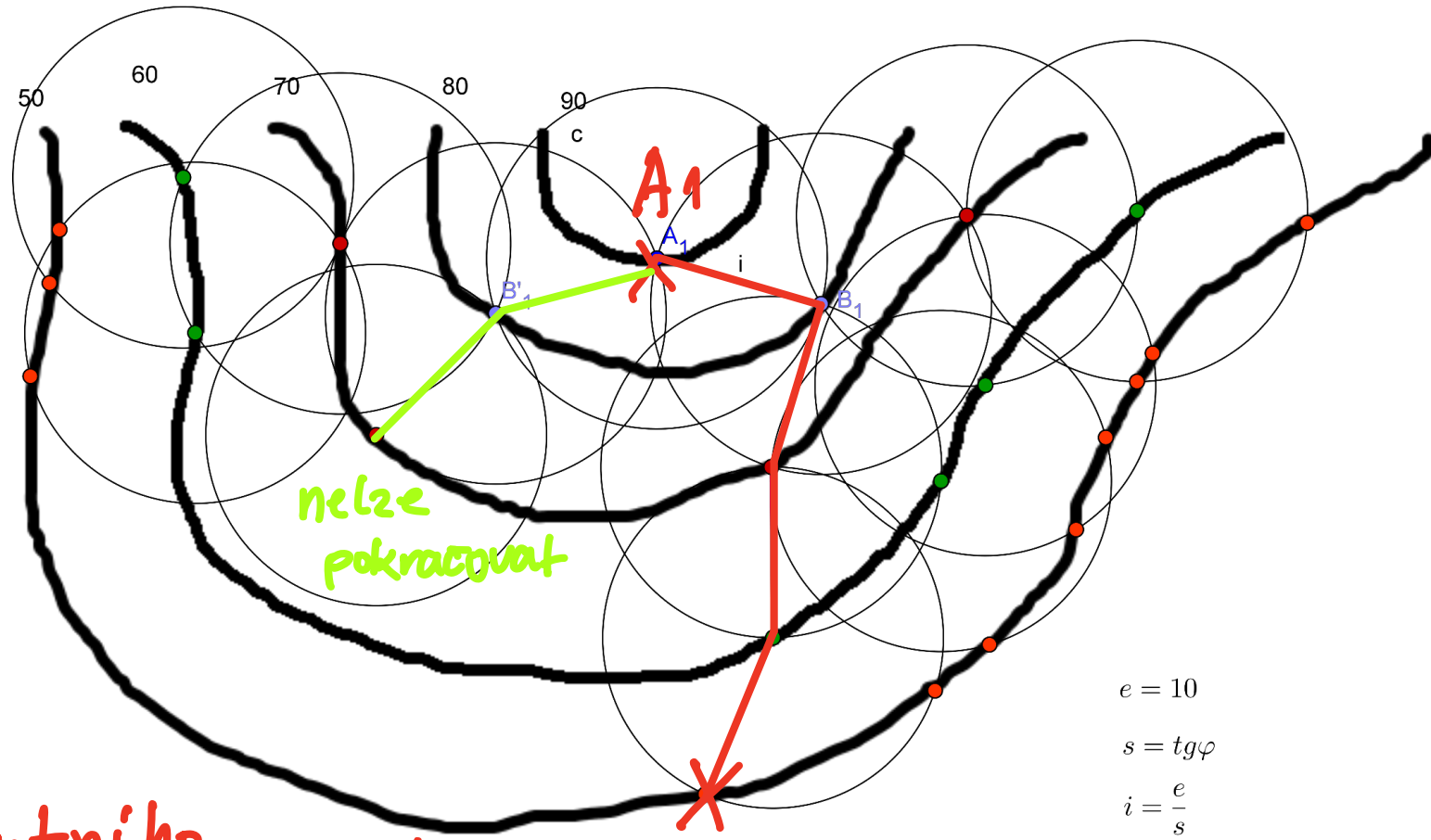
$$i = \frac{e}{s}$$











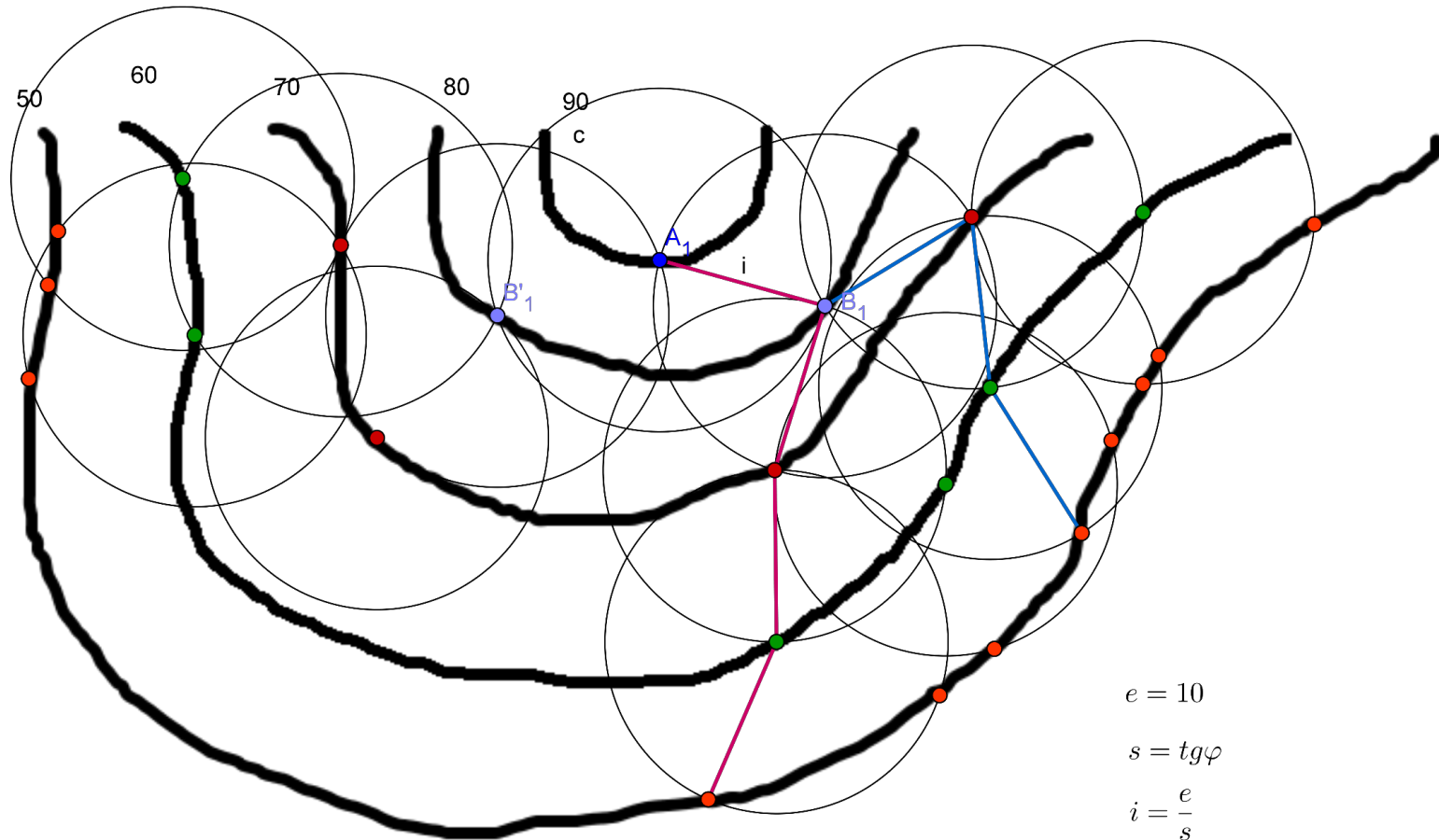
cesta
konstantního
spádu

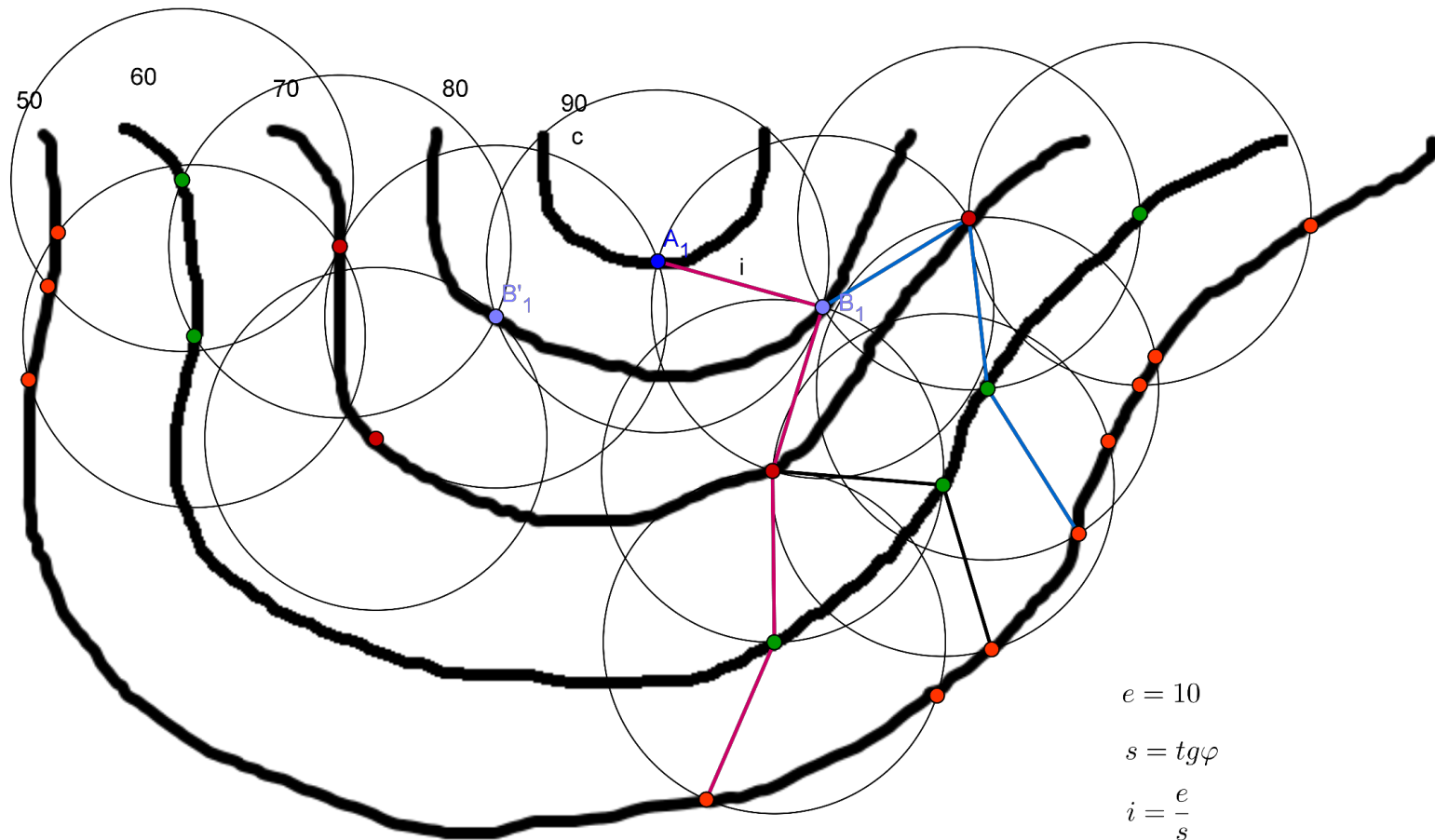
nelze
pokračovat

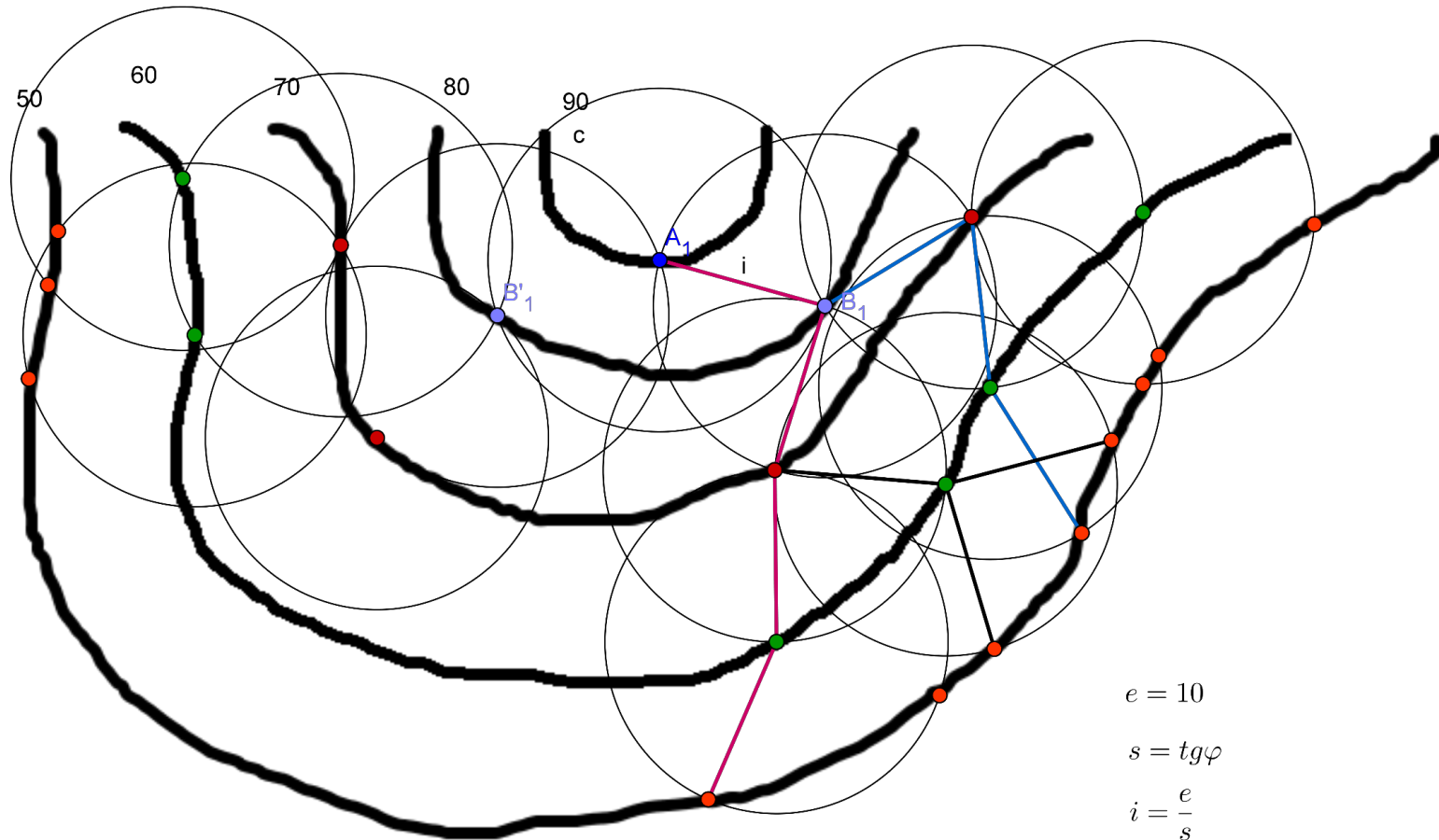
$$e = 10$$

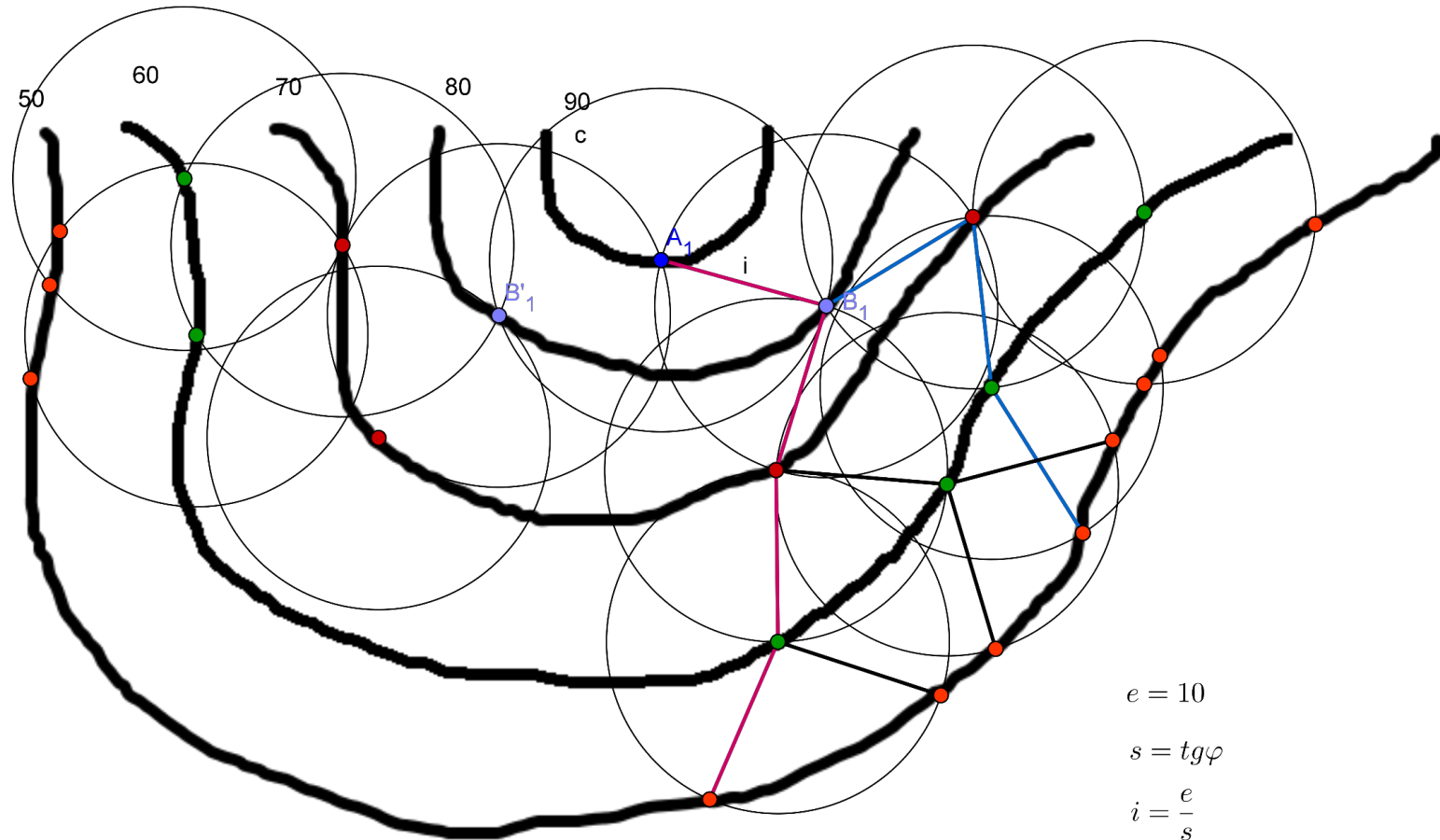
$$s = tg\varphi$$

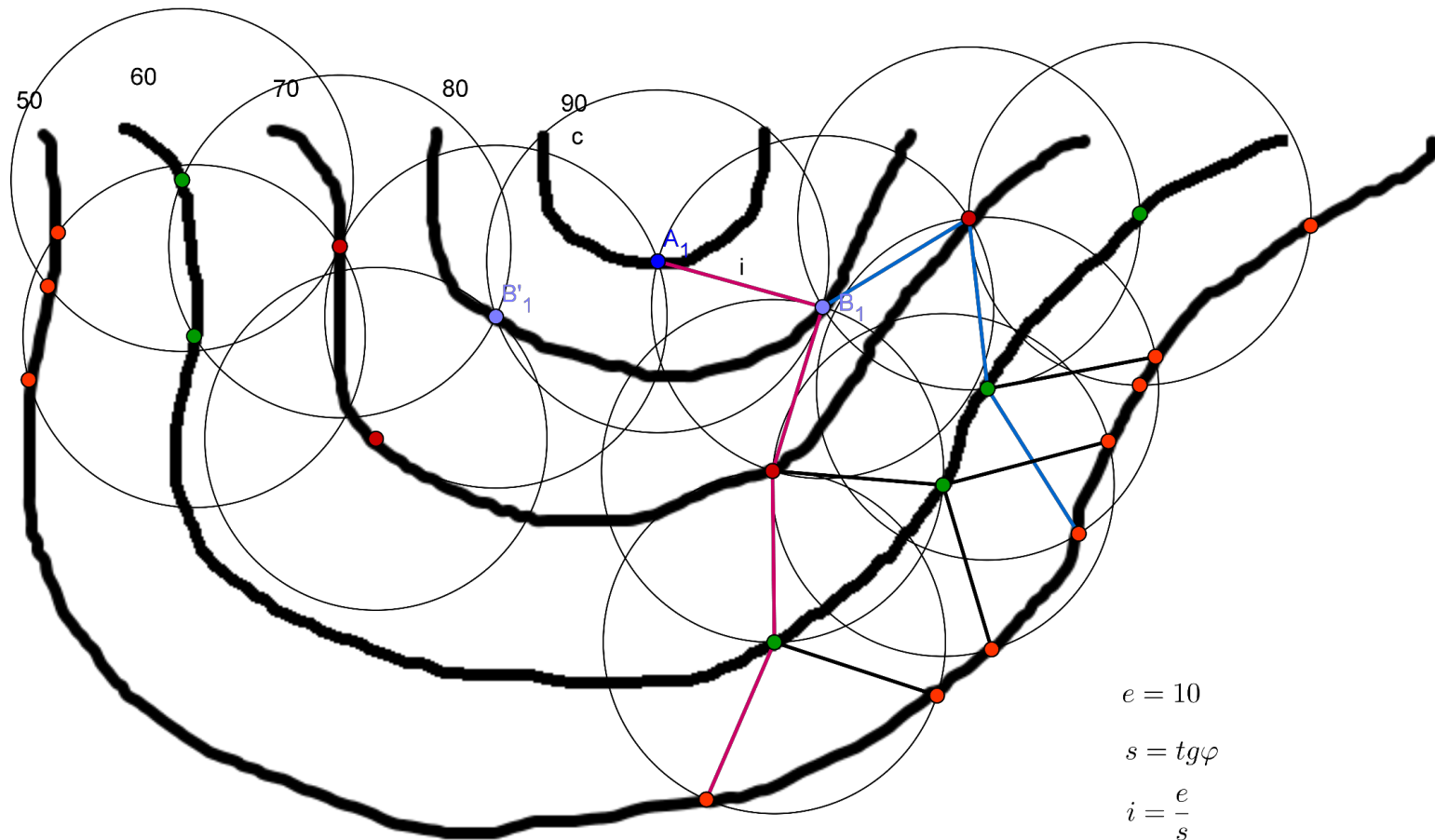
$$i = \frac{e}{s}$$

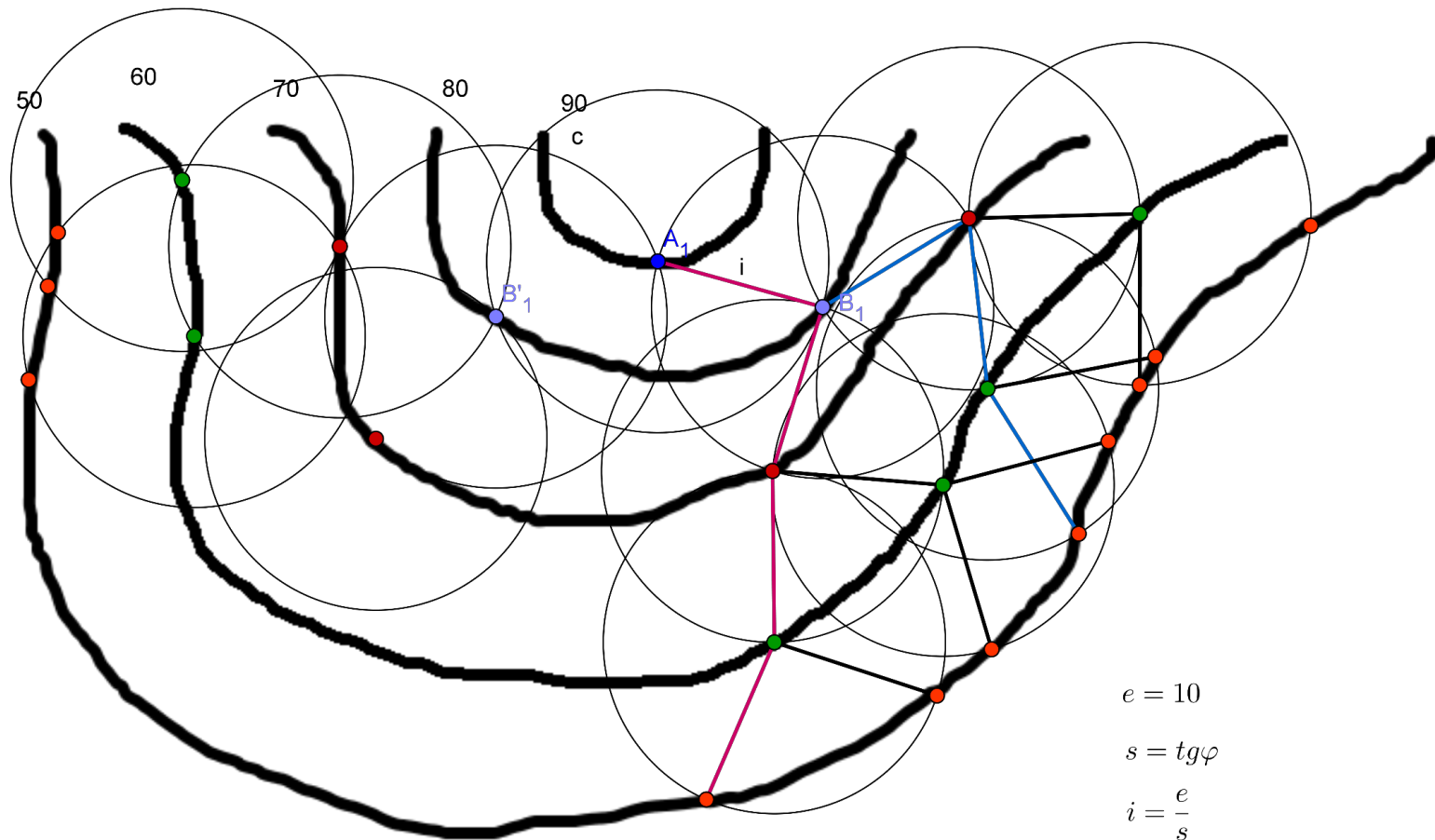


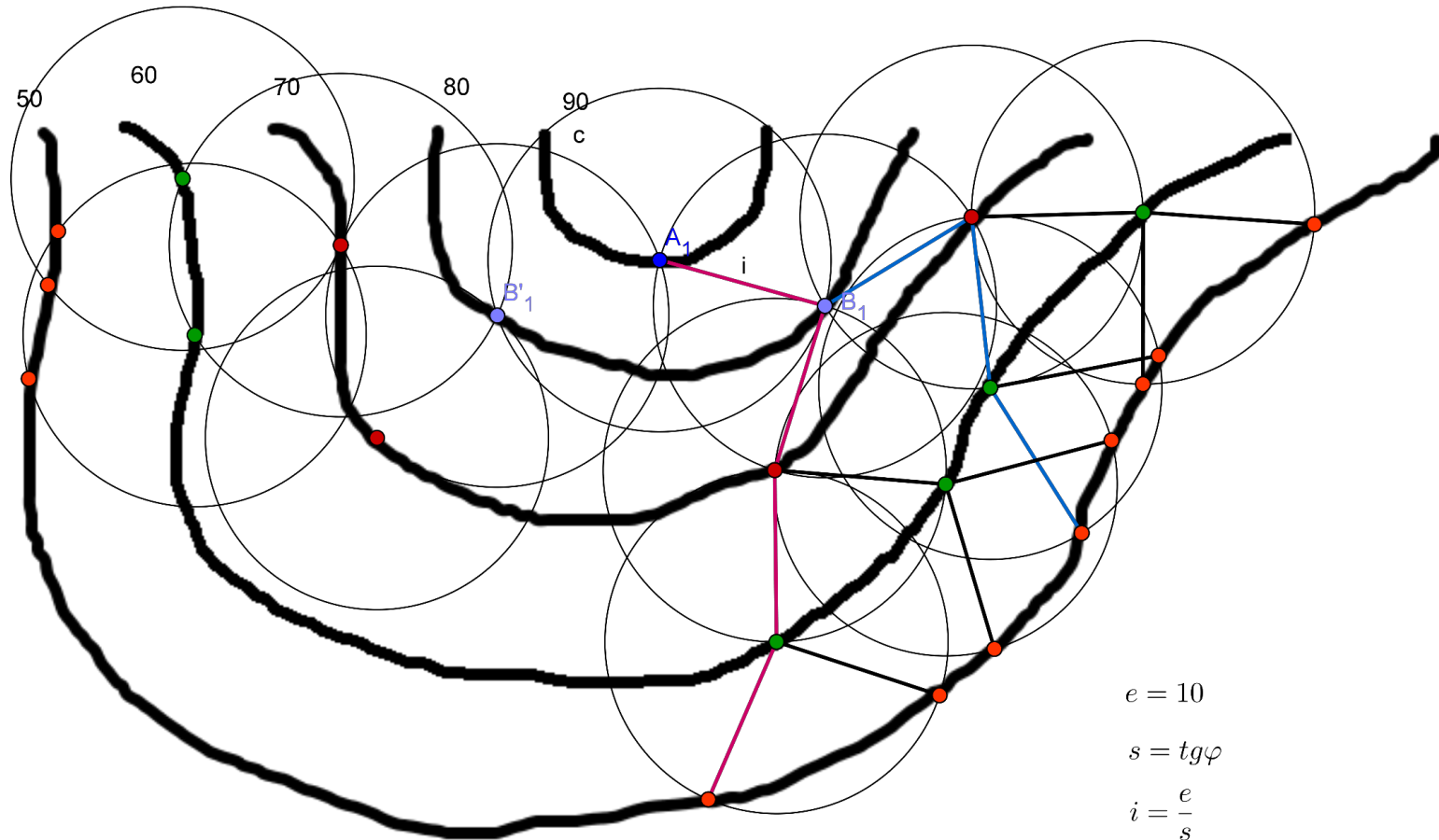


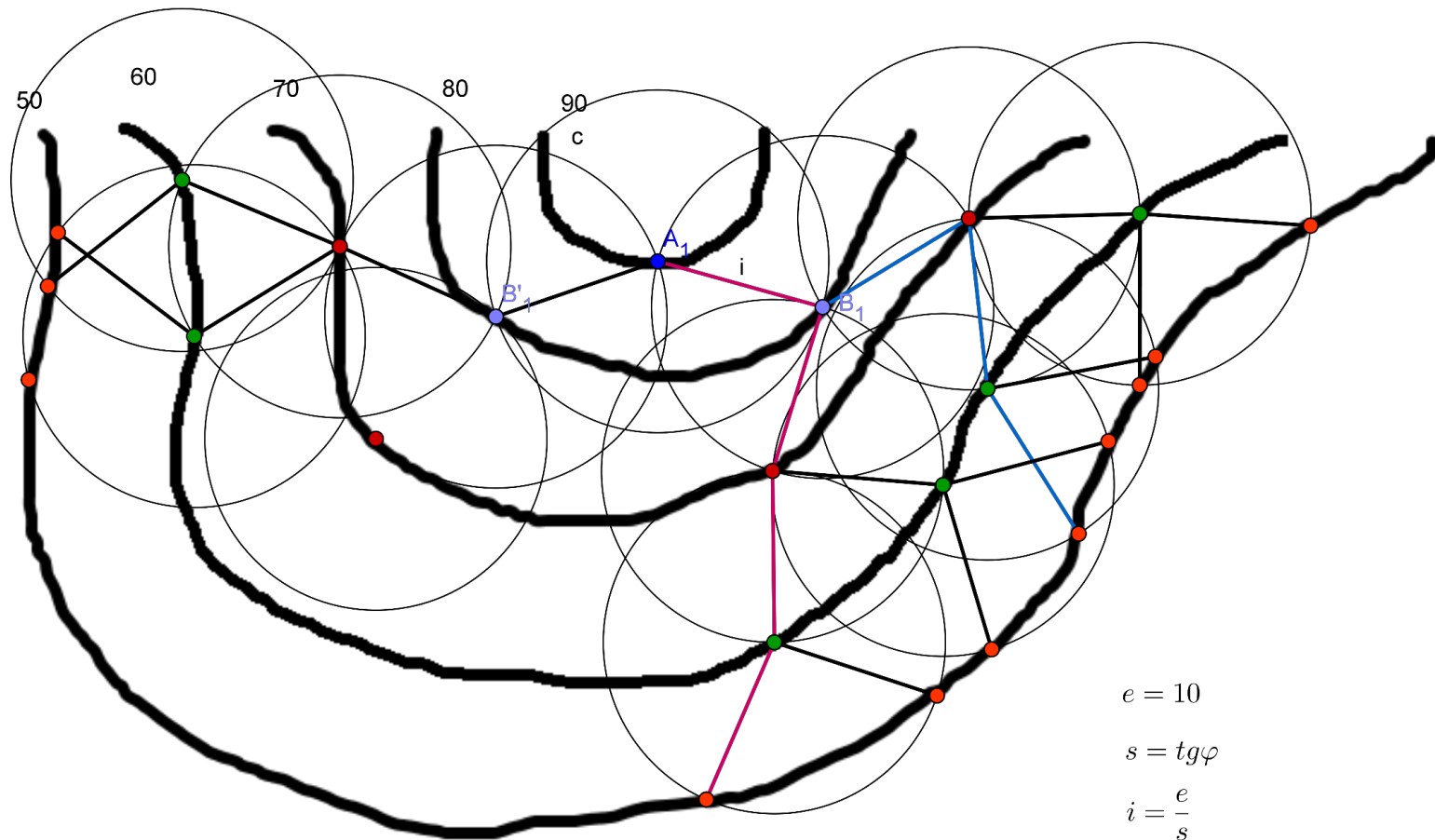


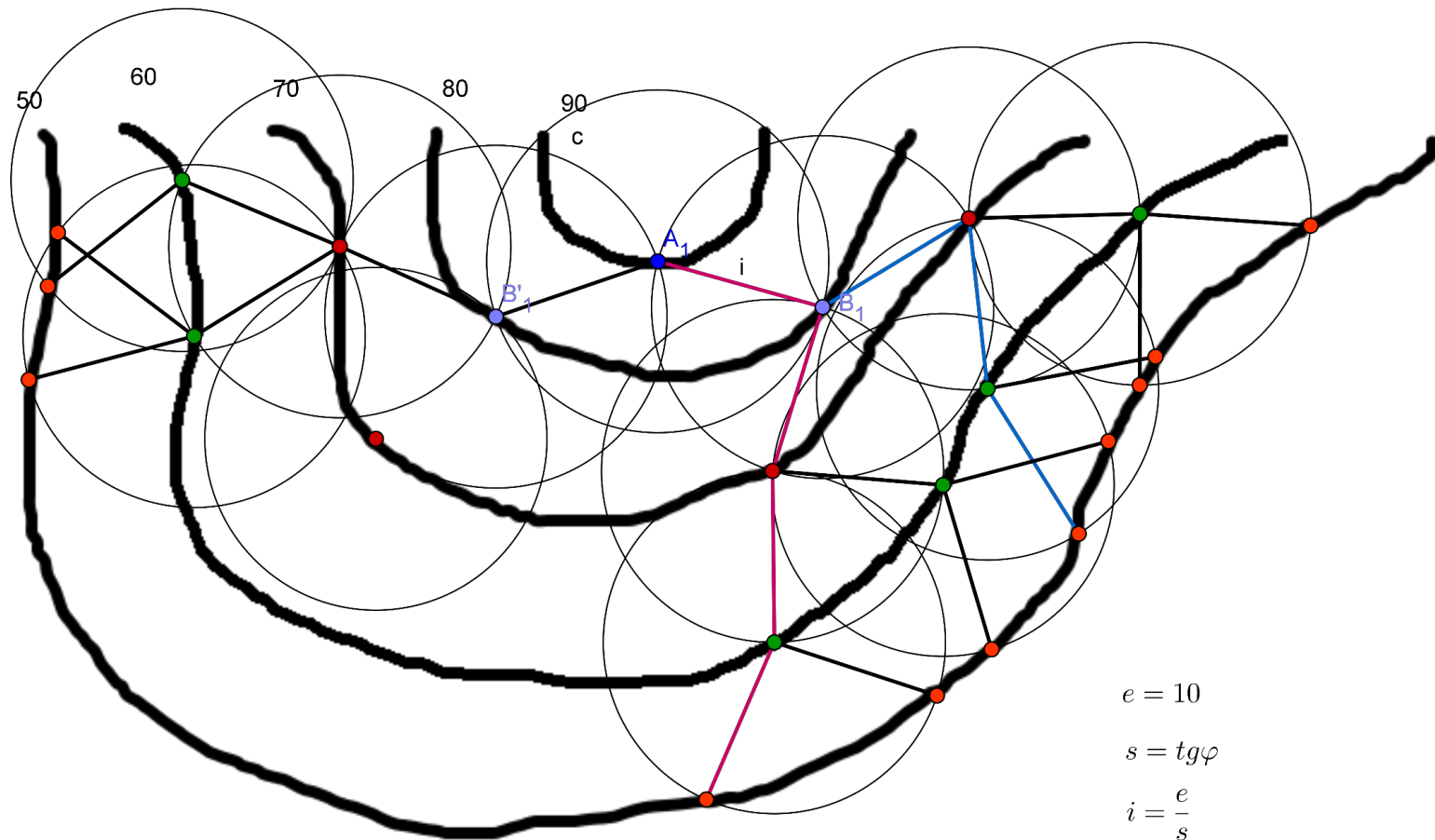




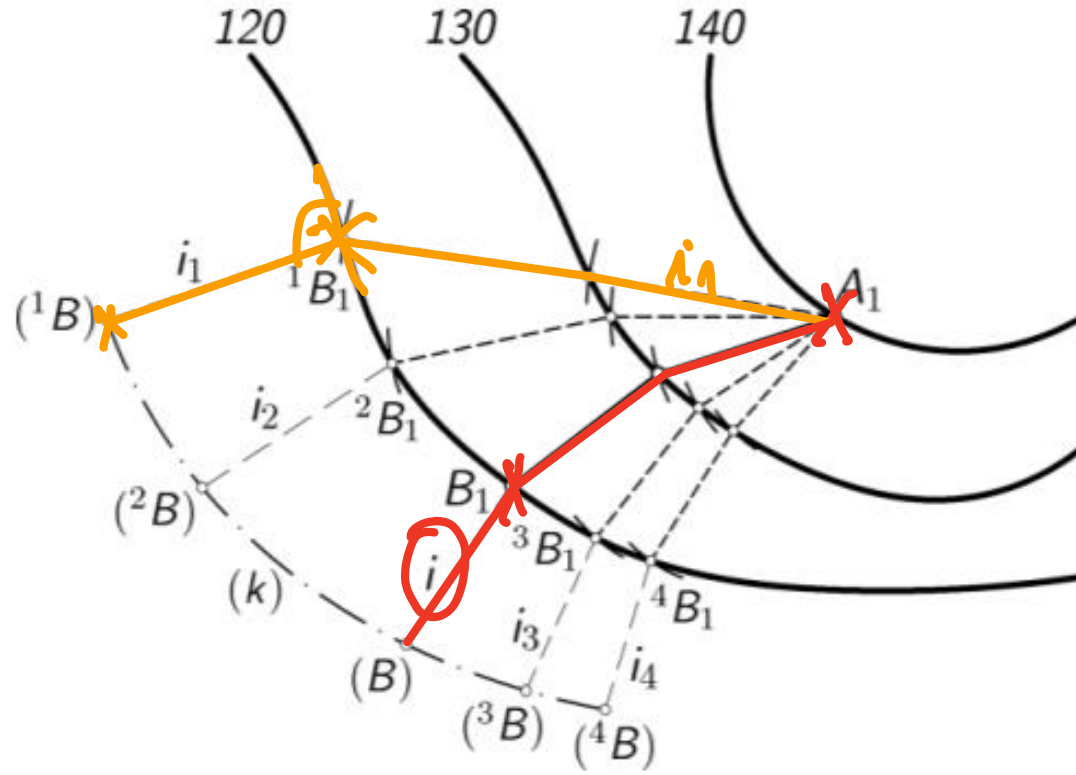






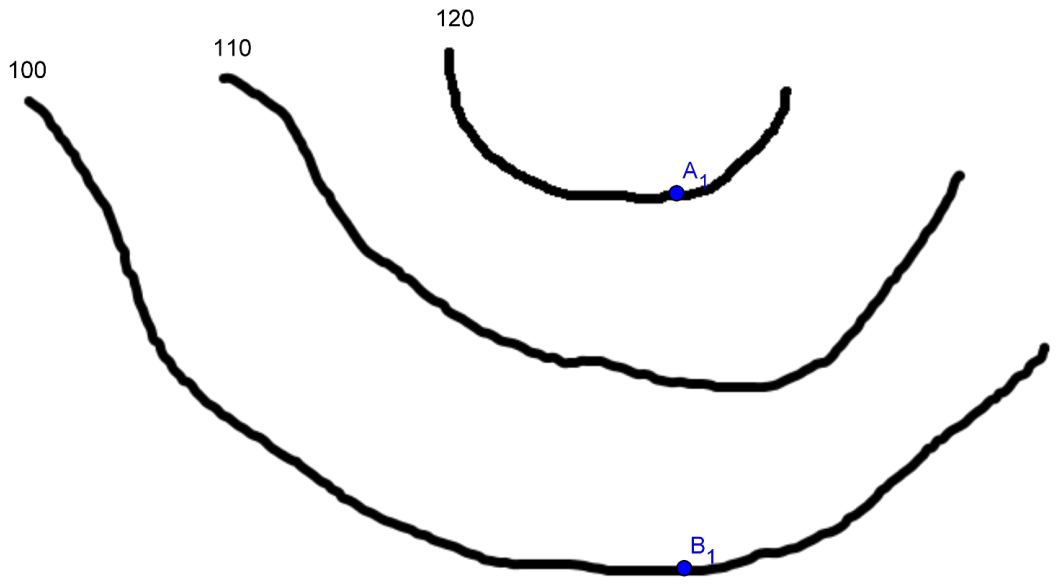


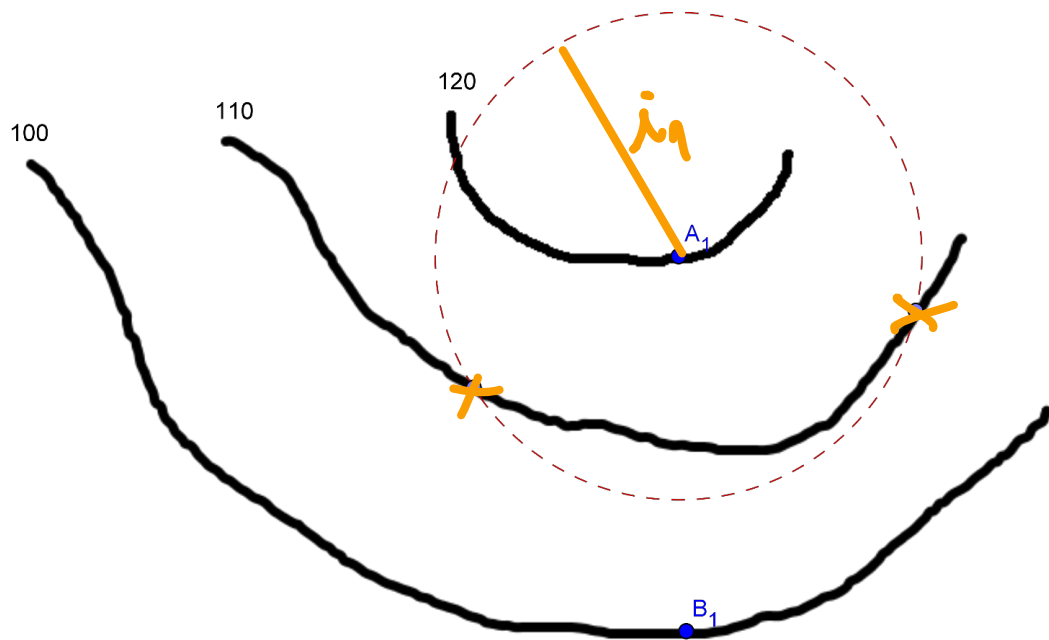
Spojení dvou bodů topografické plochy křivkou konstantního spádu

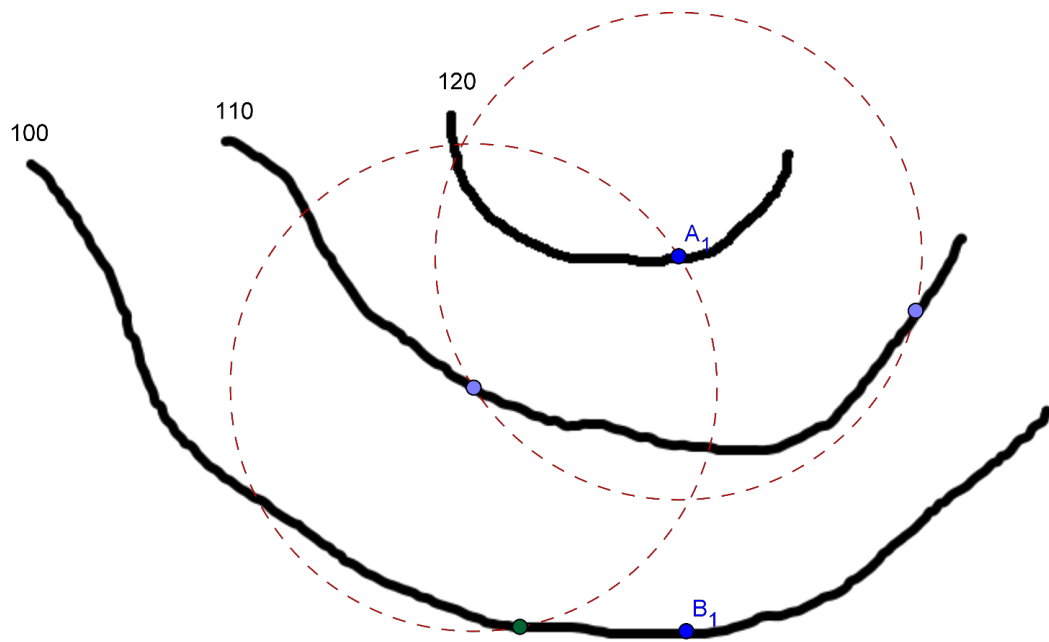


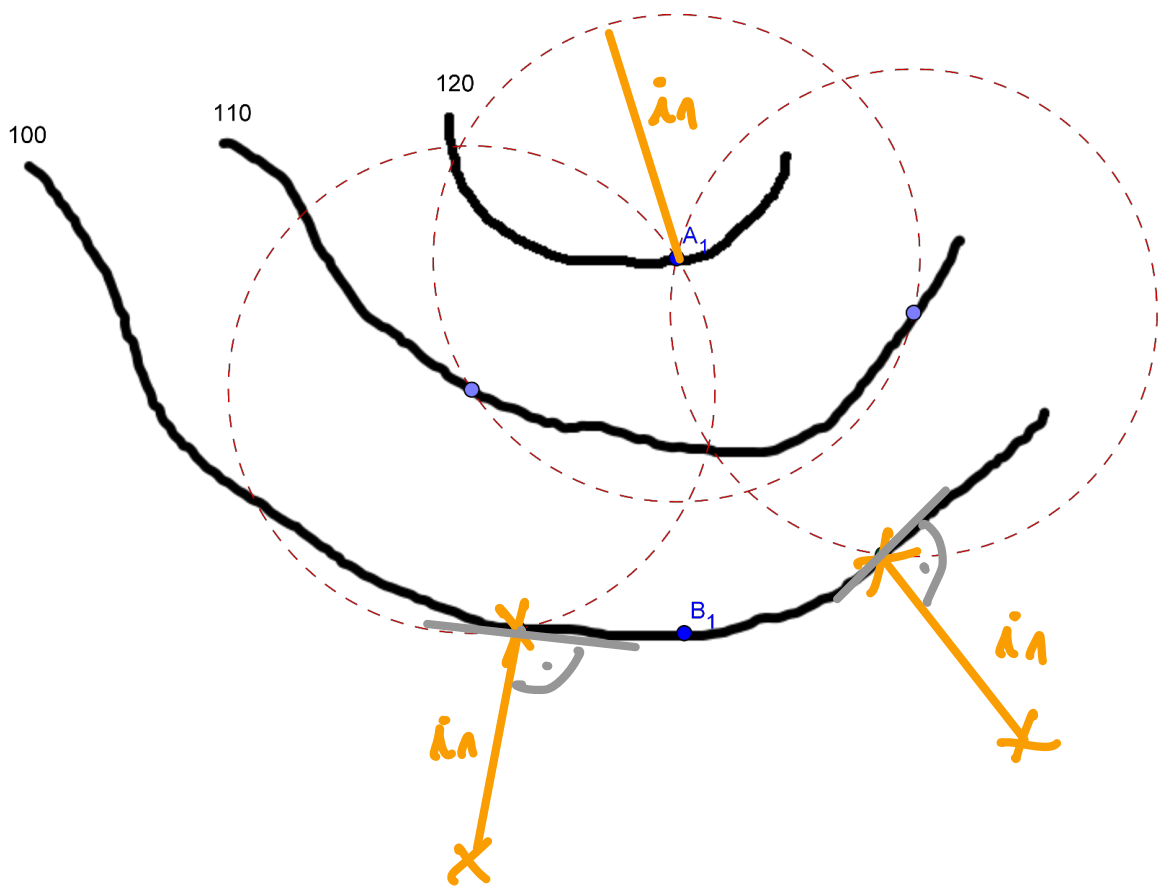
Spojení dvou bodů topografické plochy křivkou konstantního spádu

V daném vrstevnicovém plánu spojte křivkou konstantního spádu dané body.

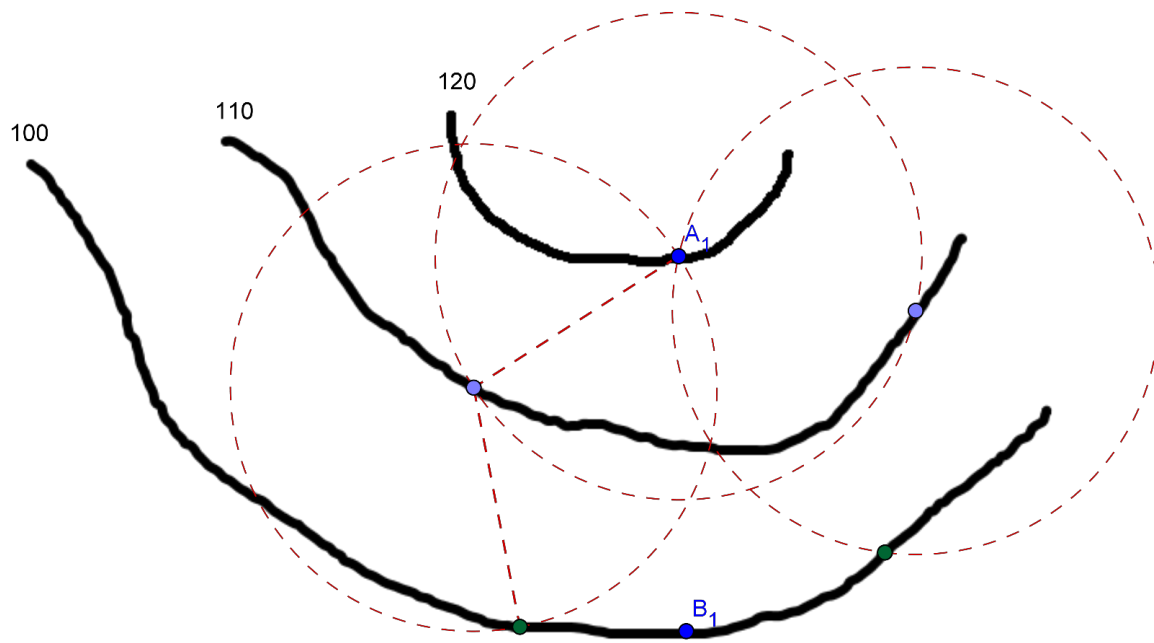


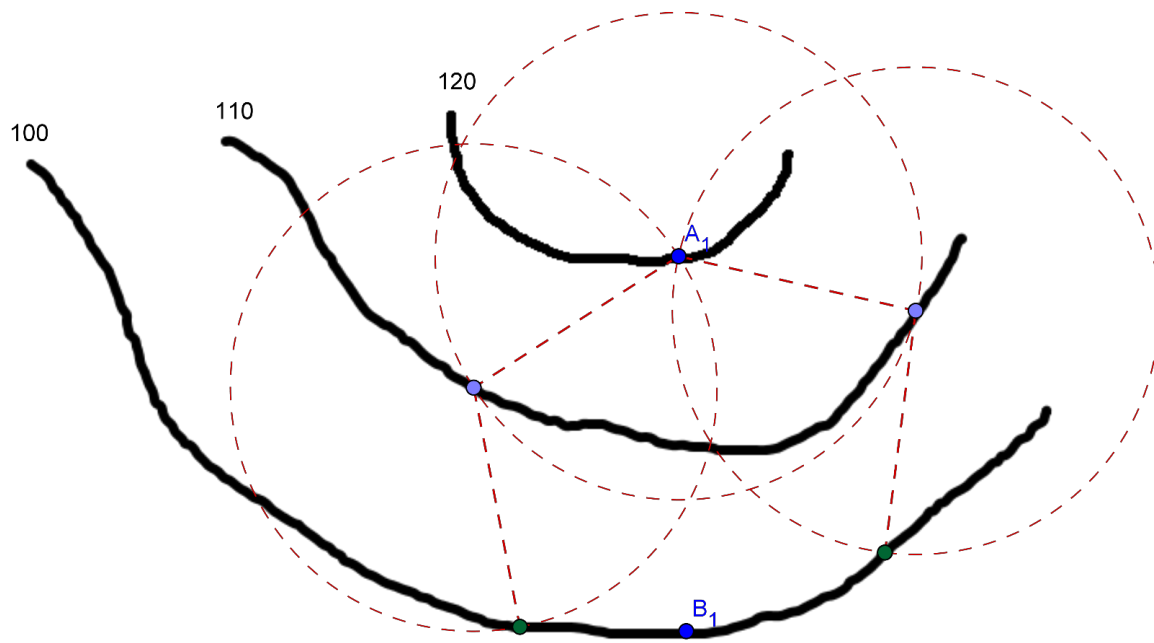


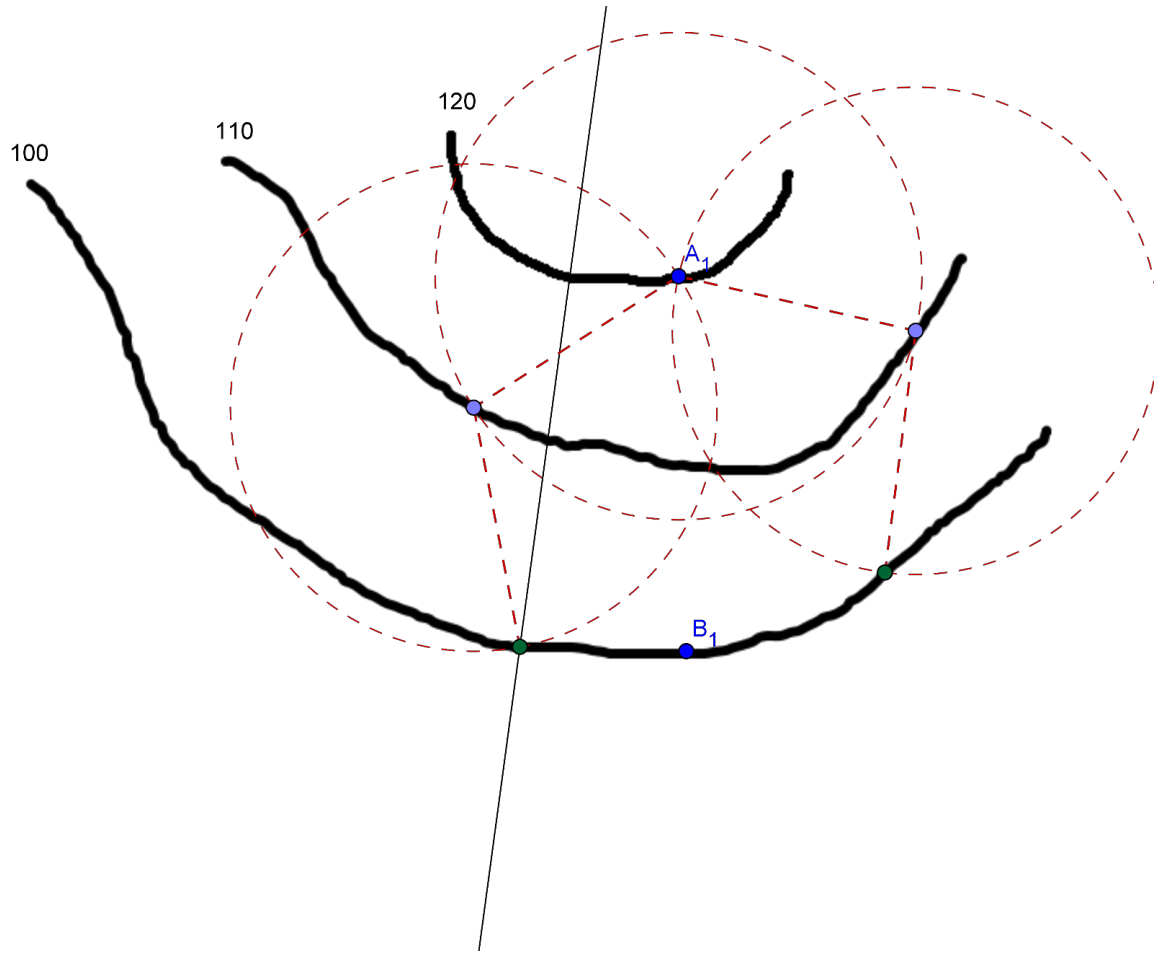


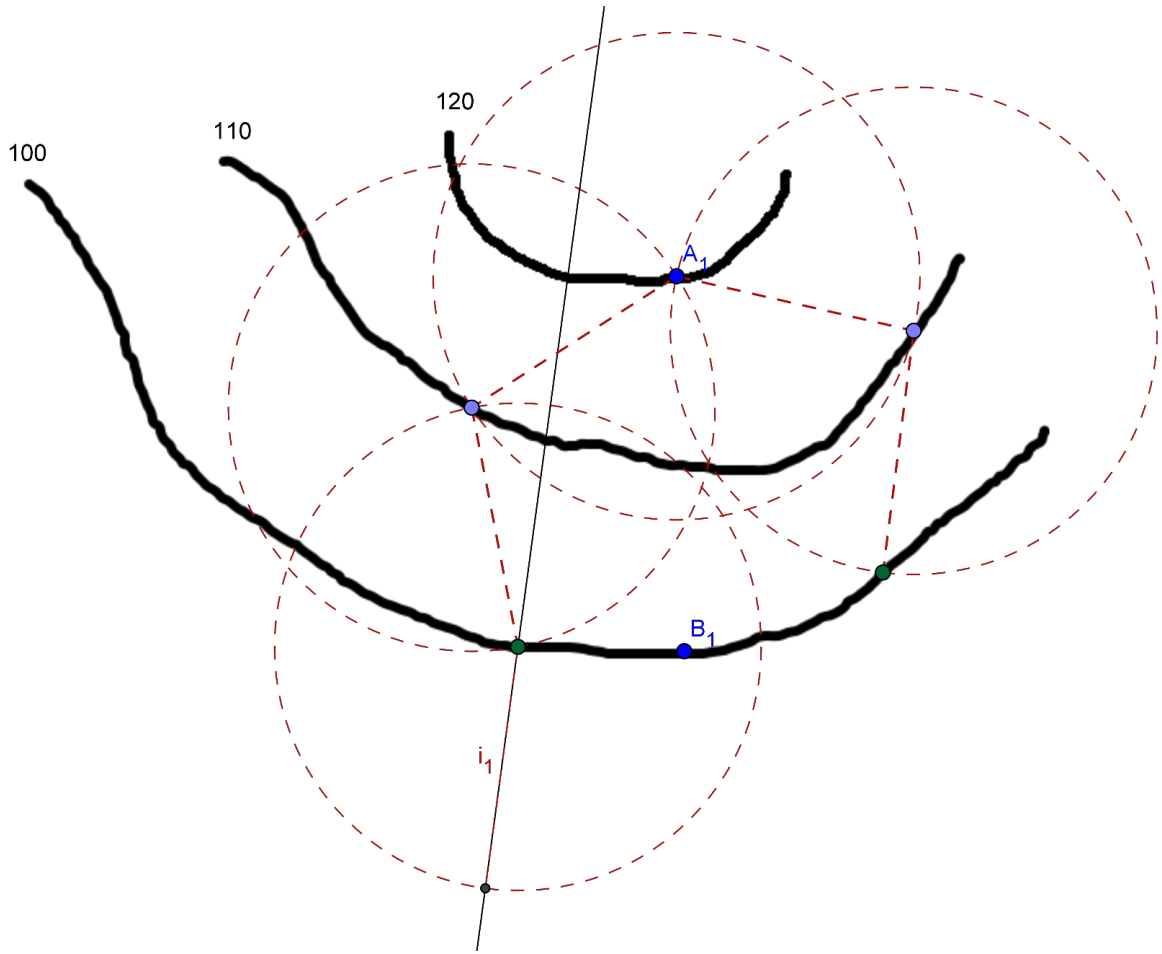


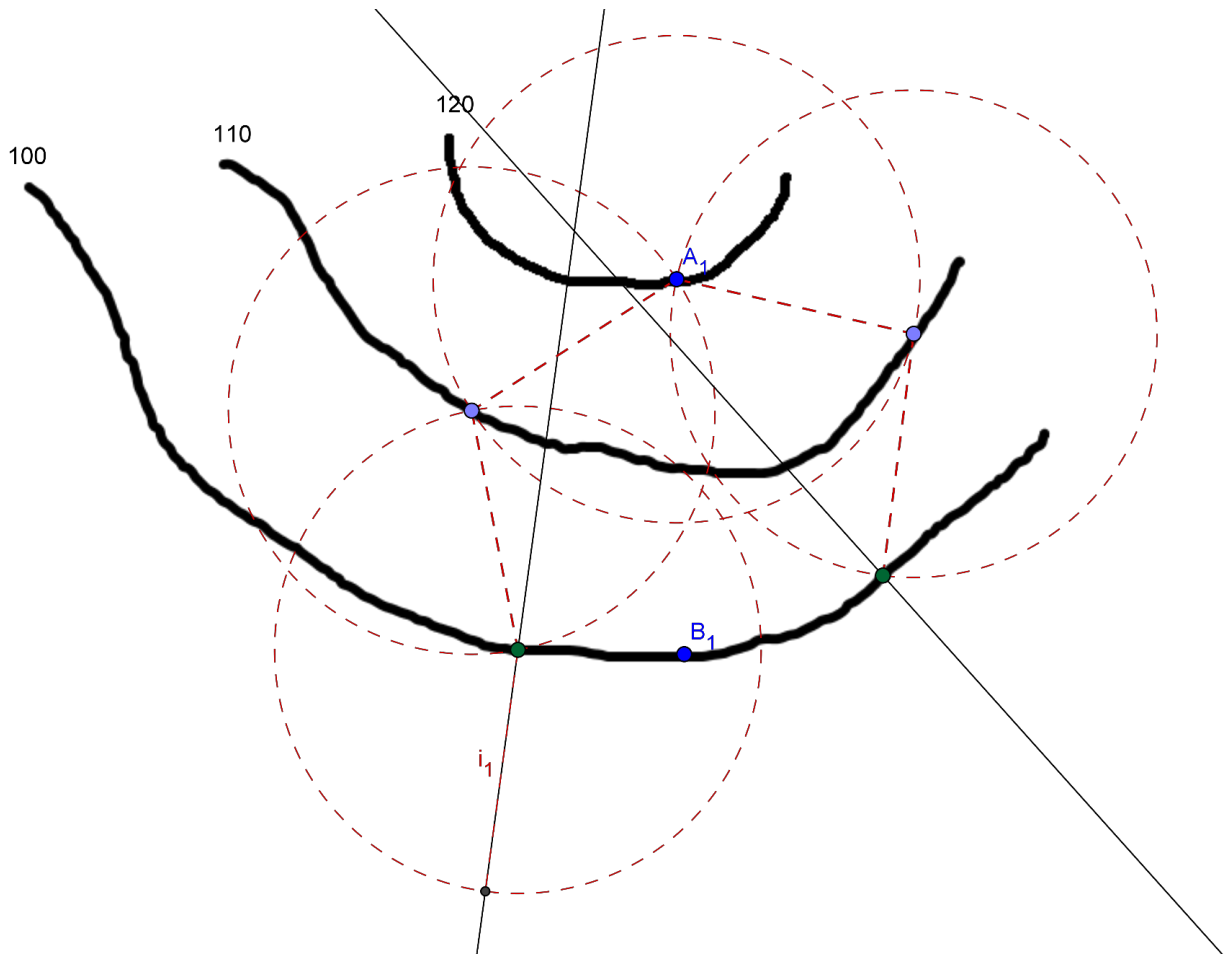
tātēz
 pro dašī'
 intervaly
 i_2, i_3, \dots

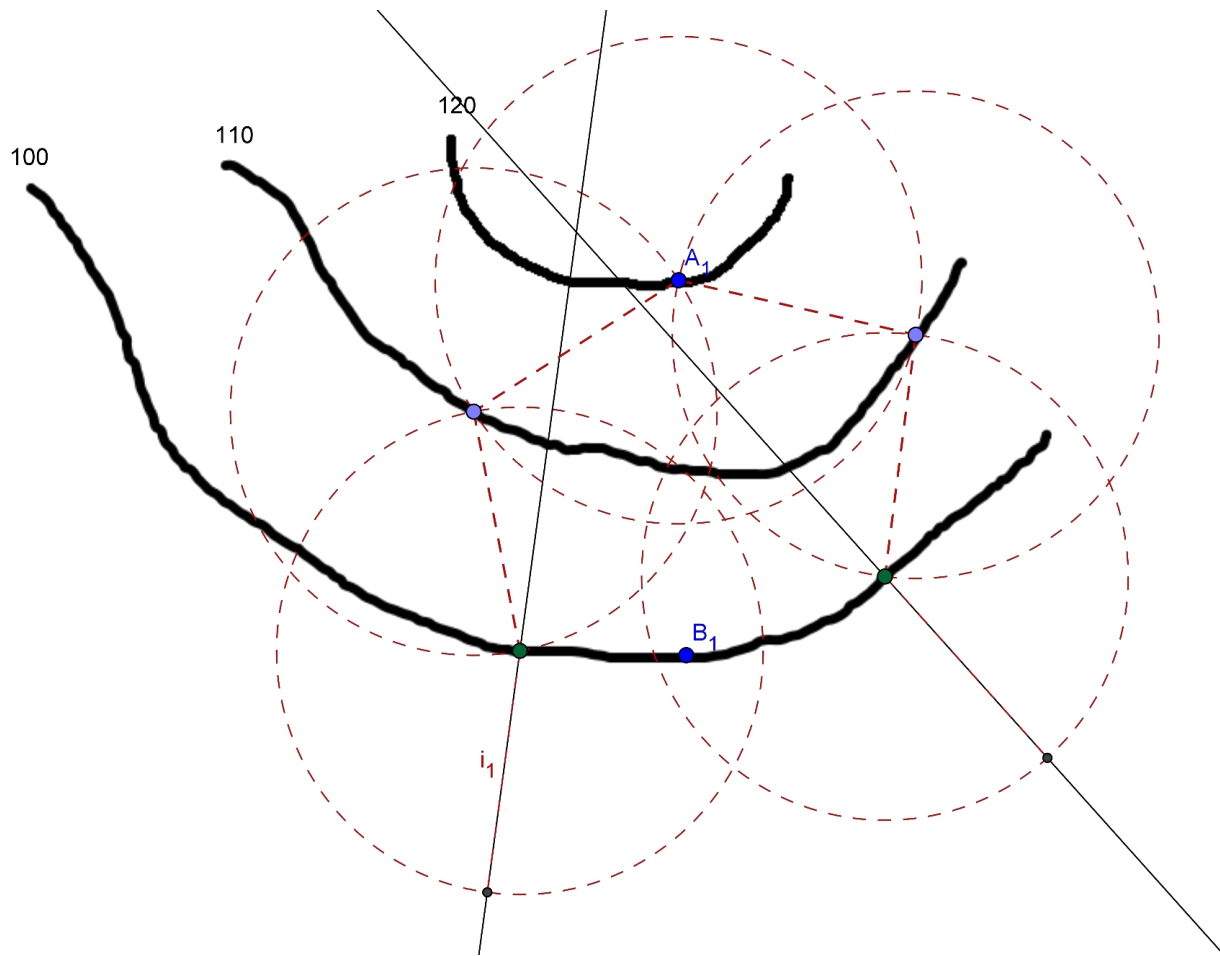


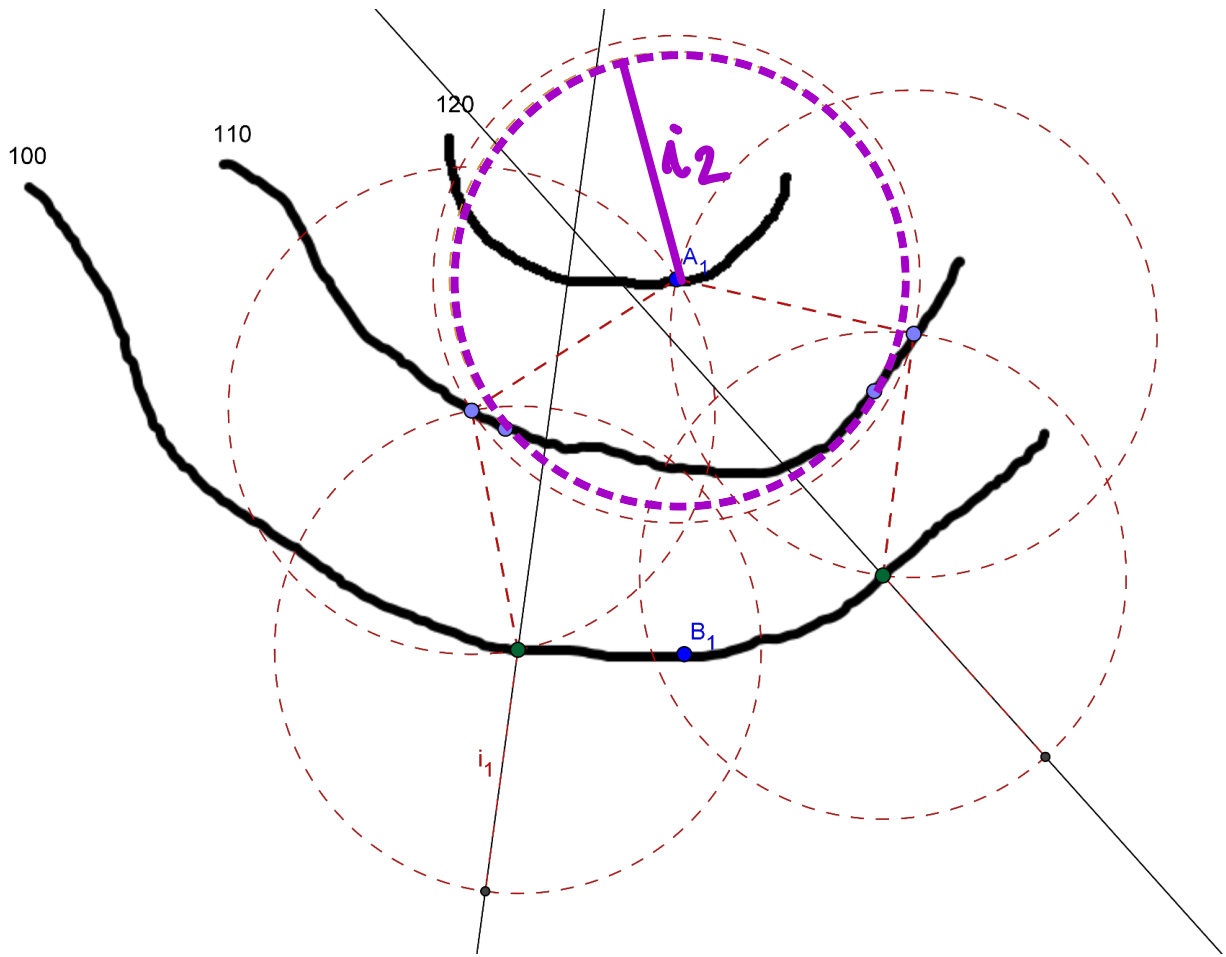


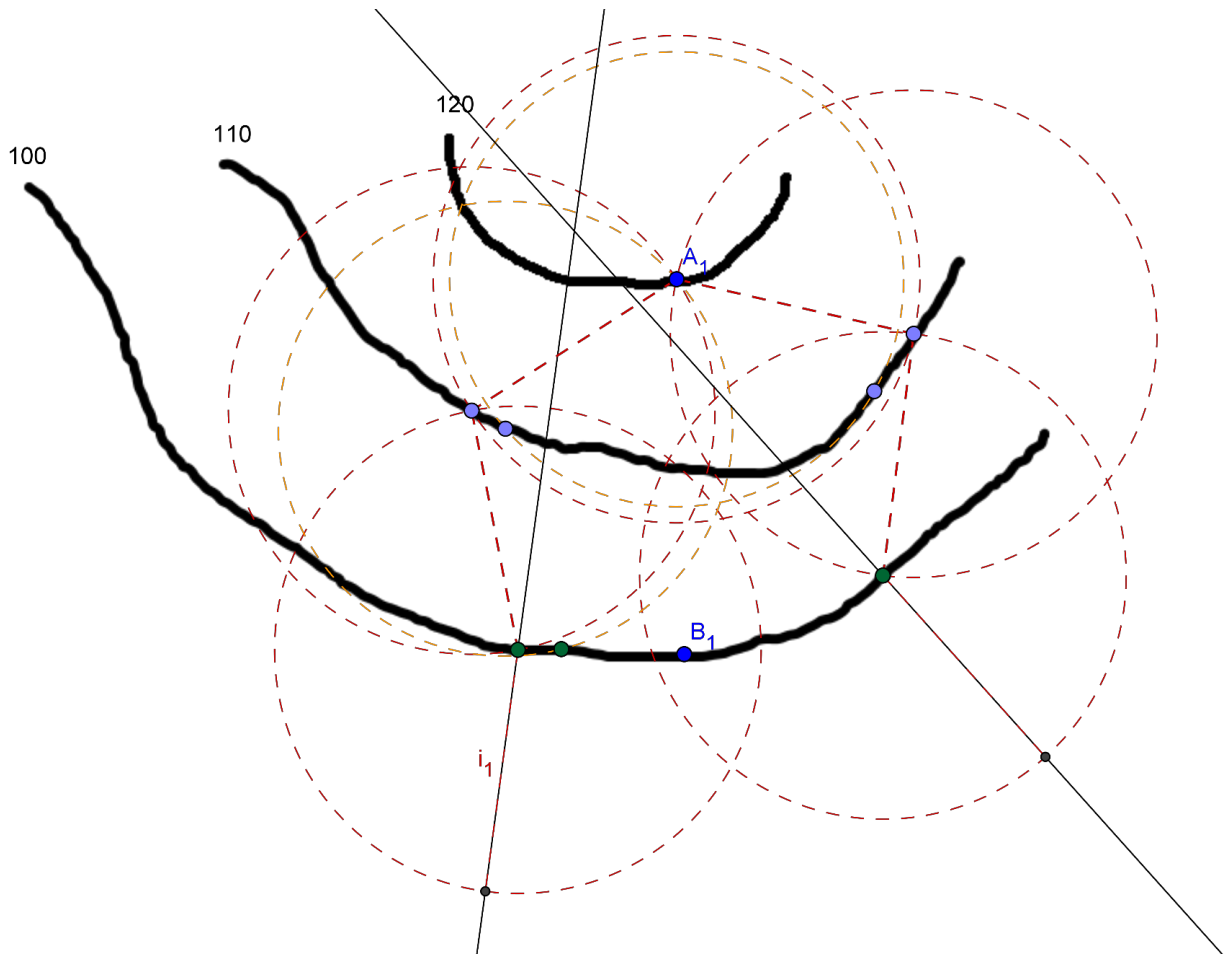


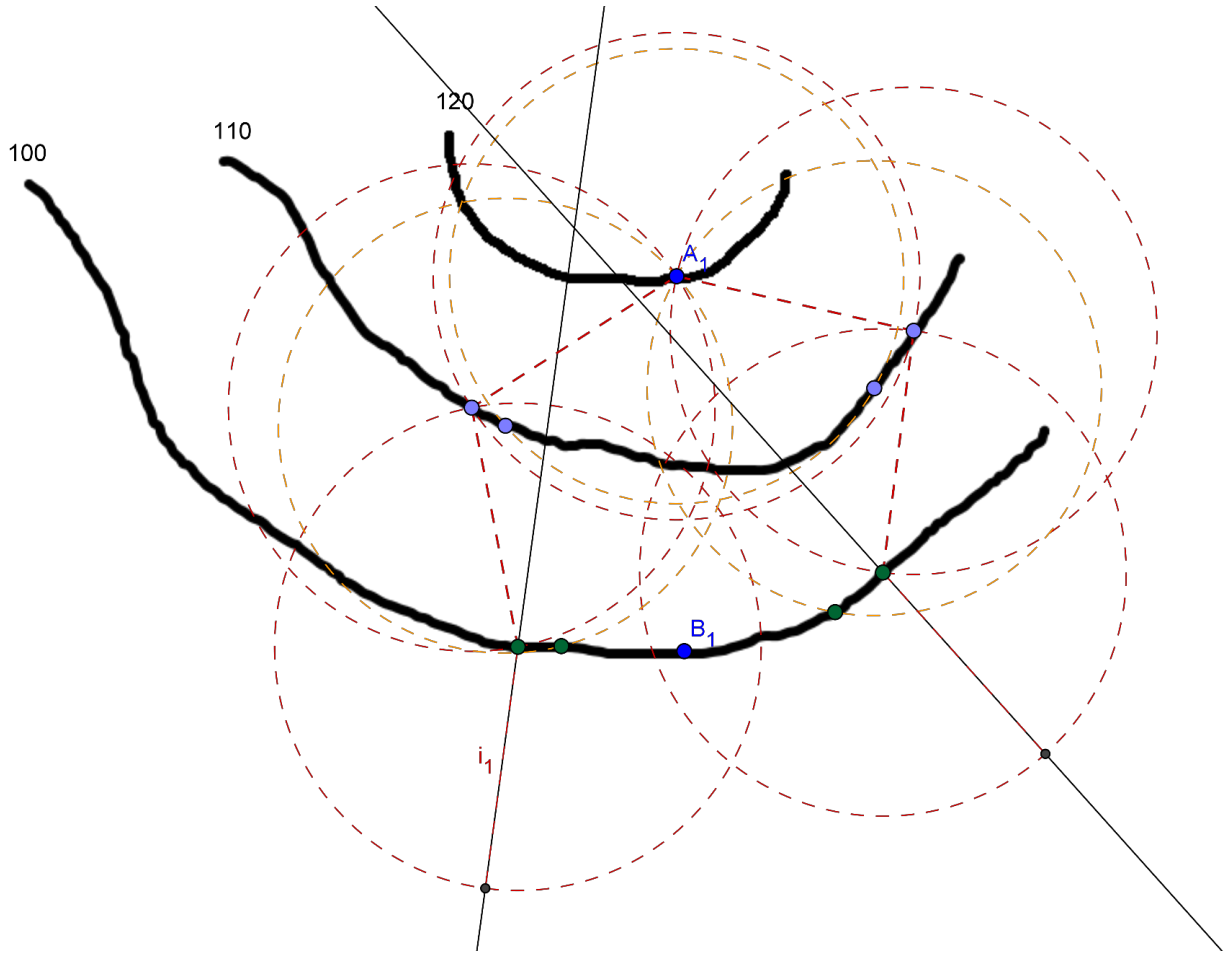


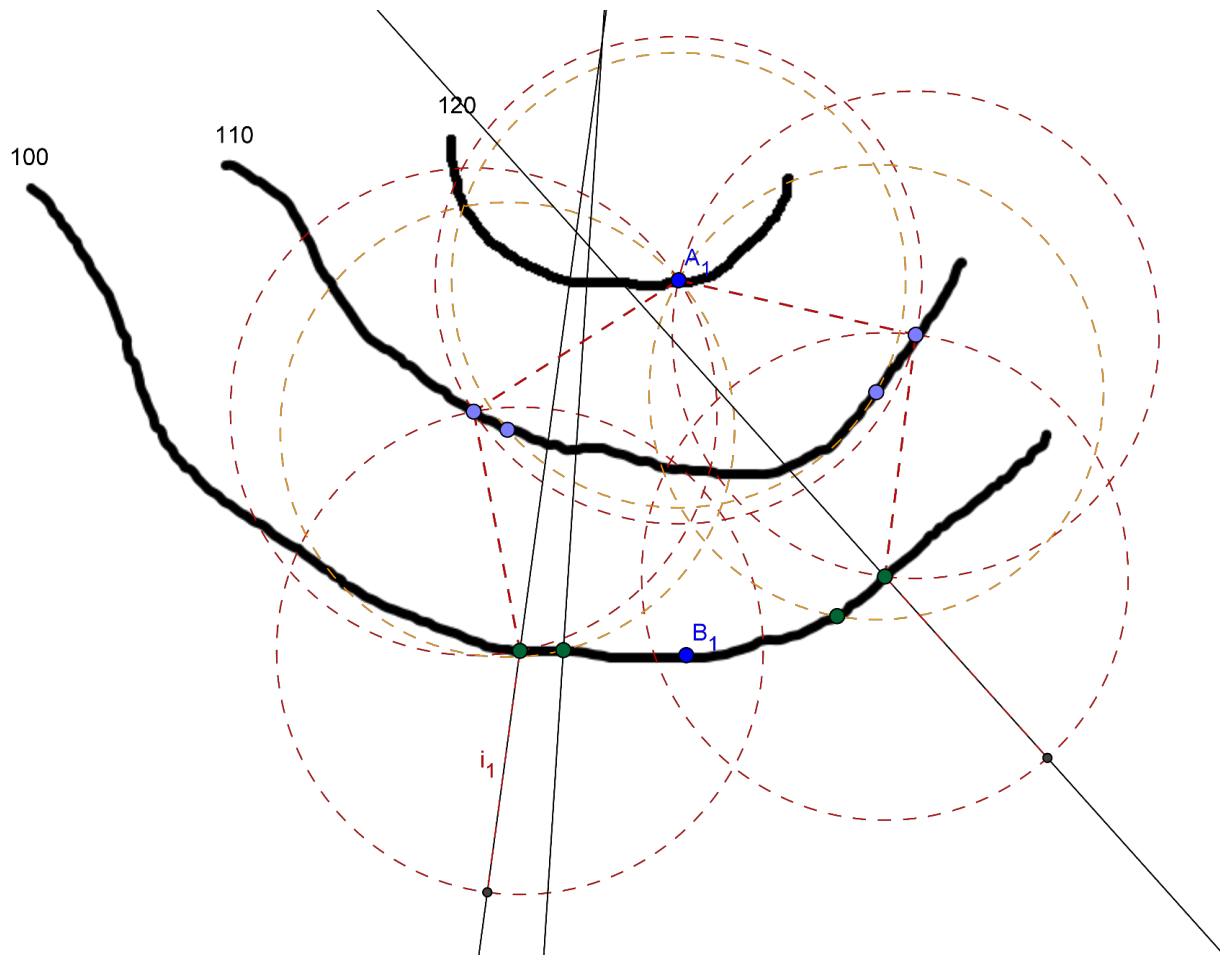


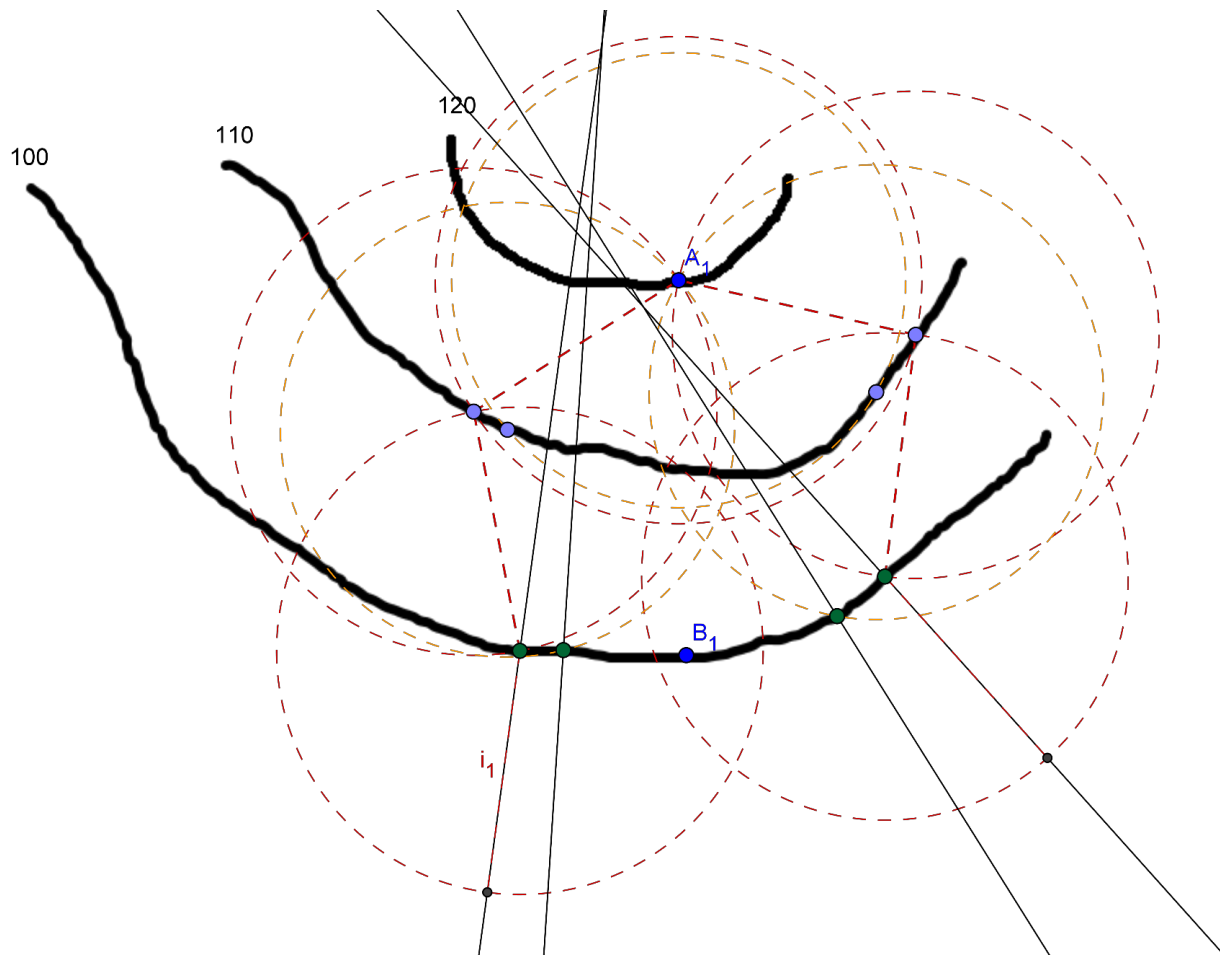


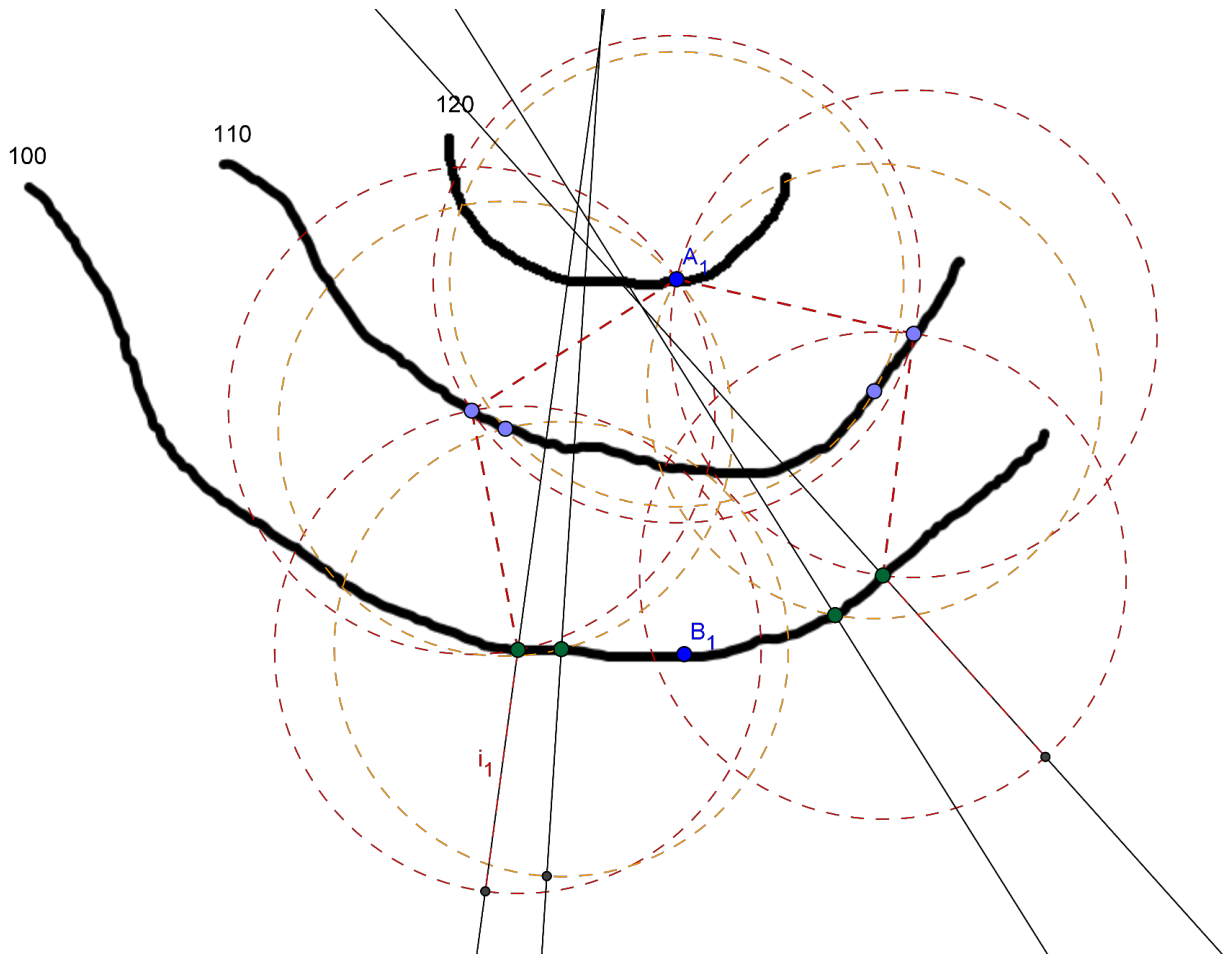


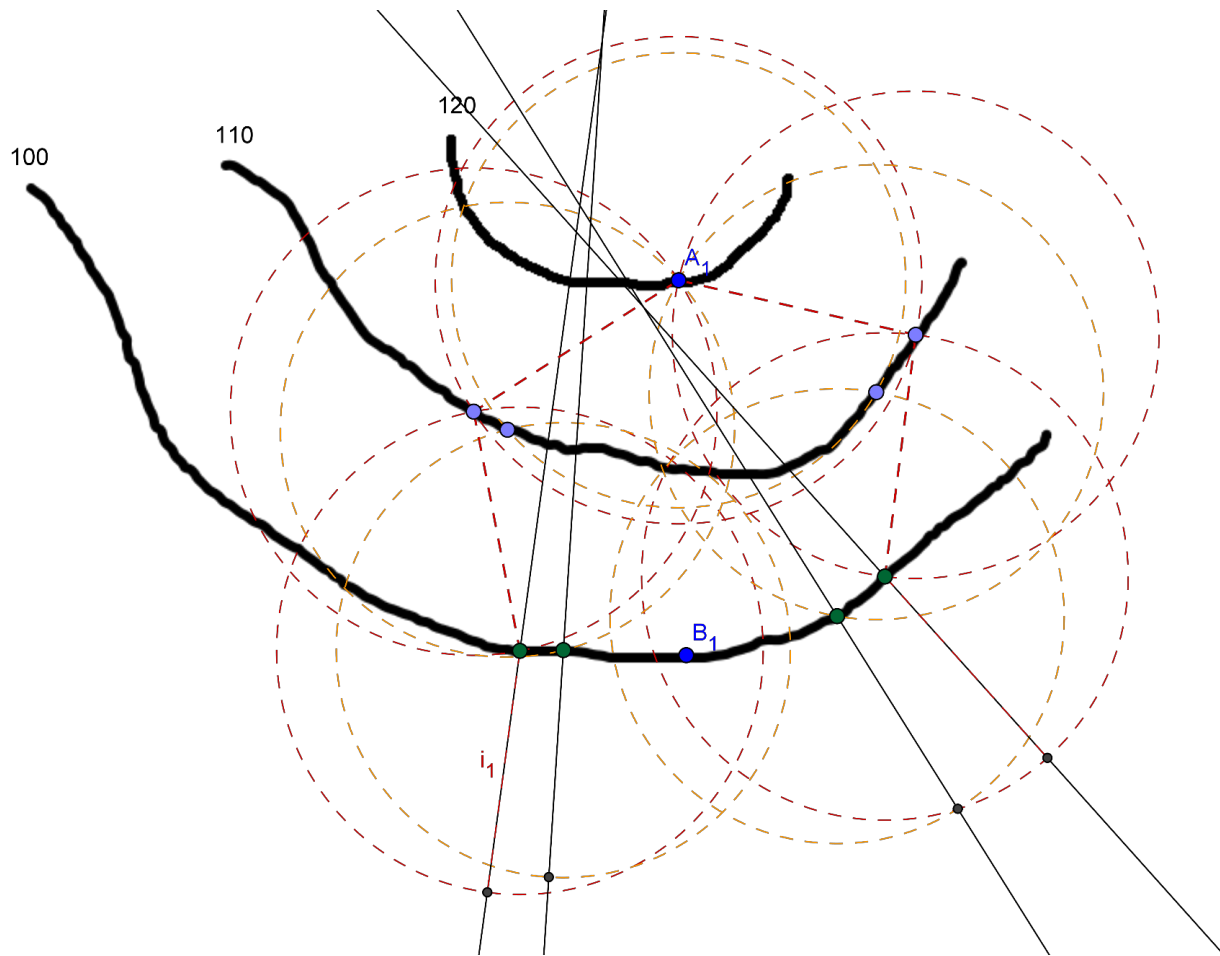


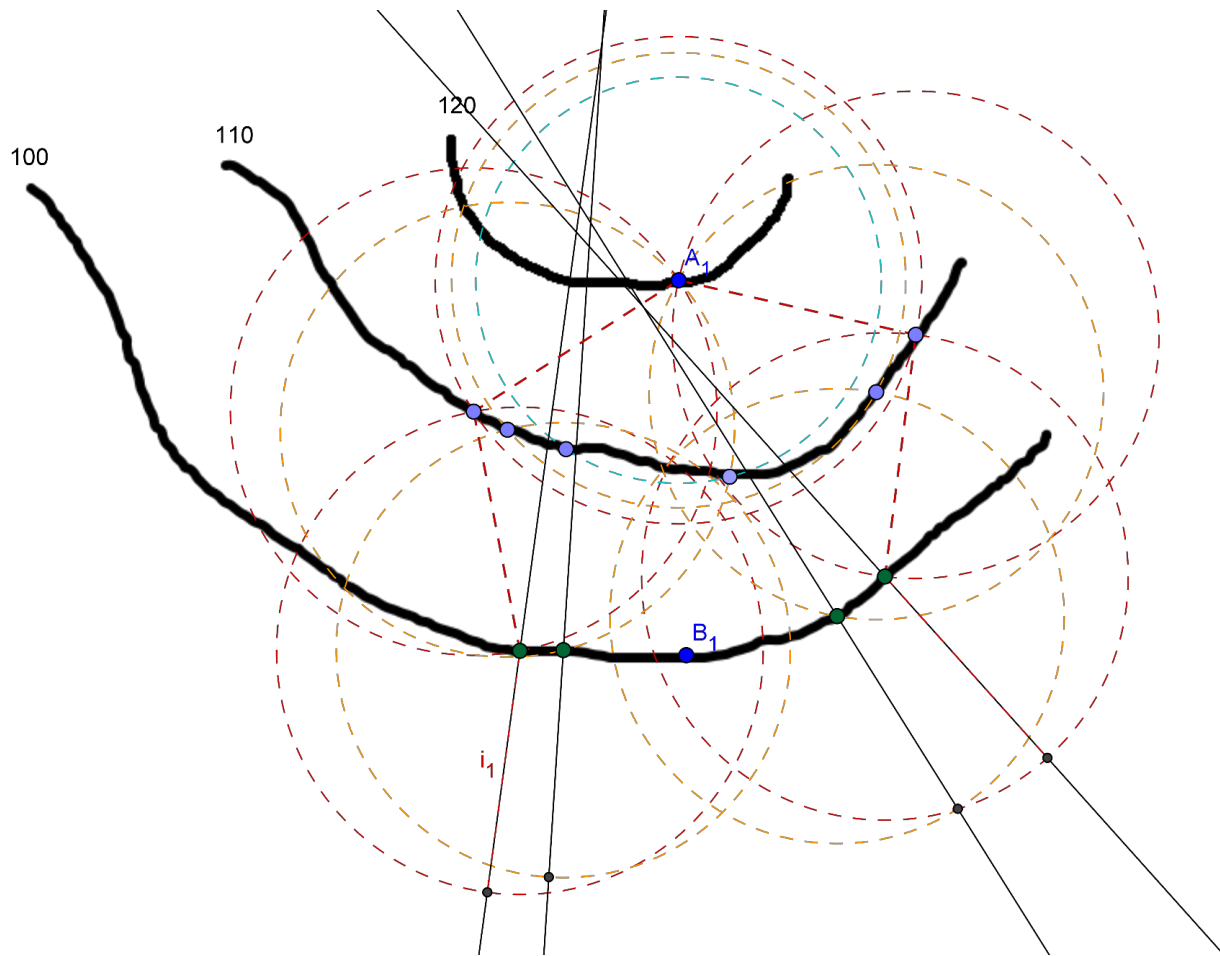


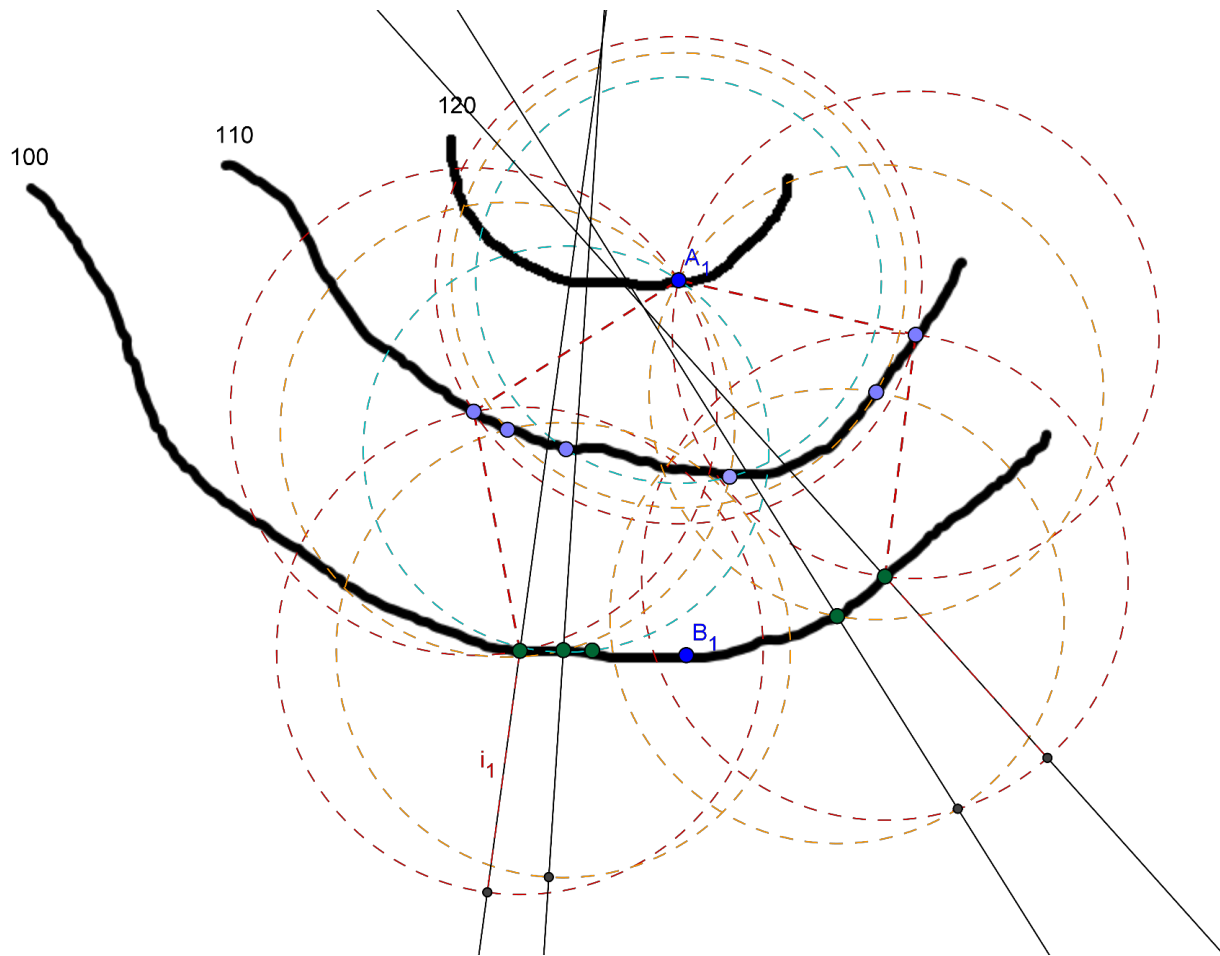


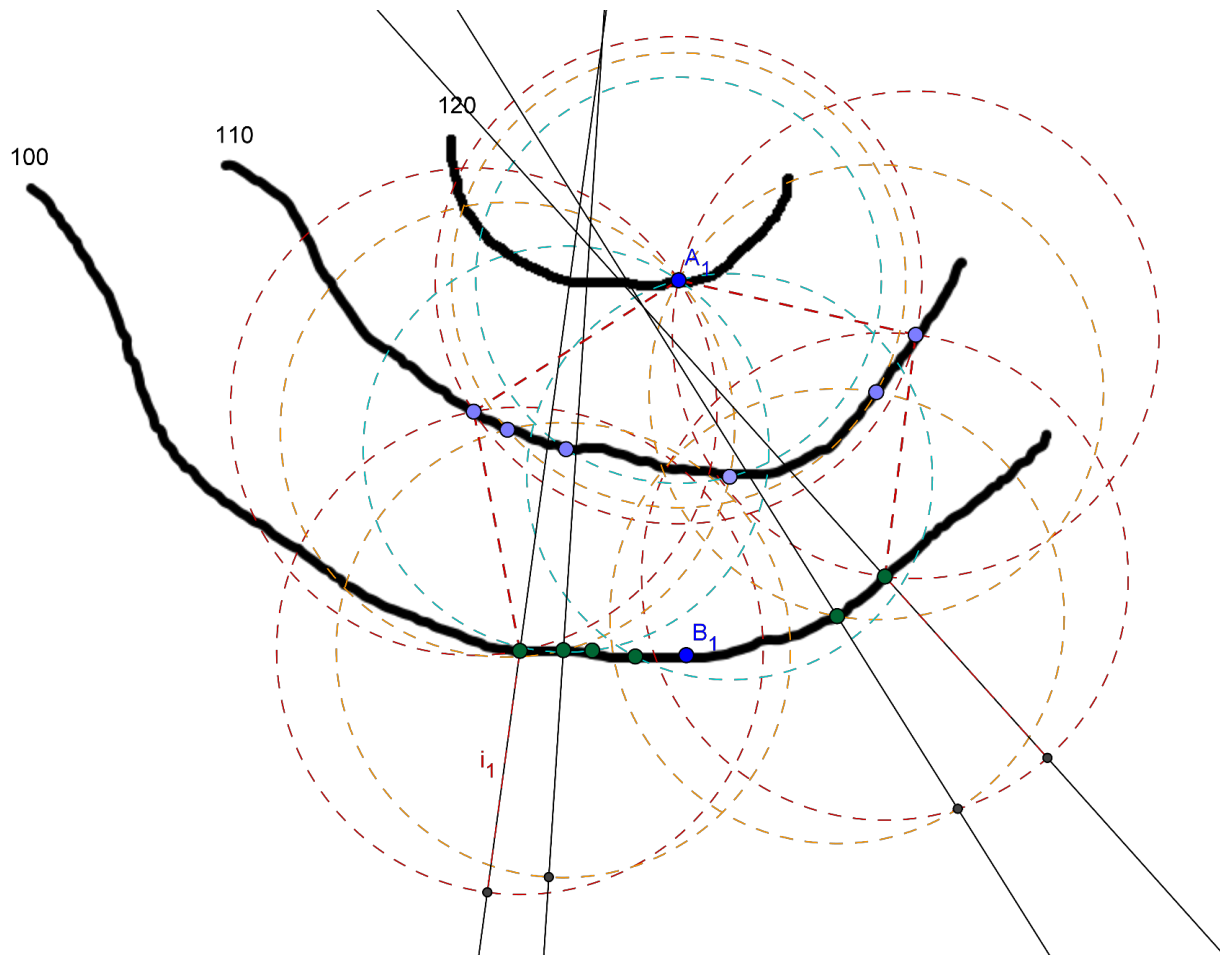


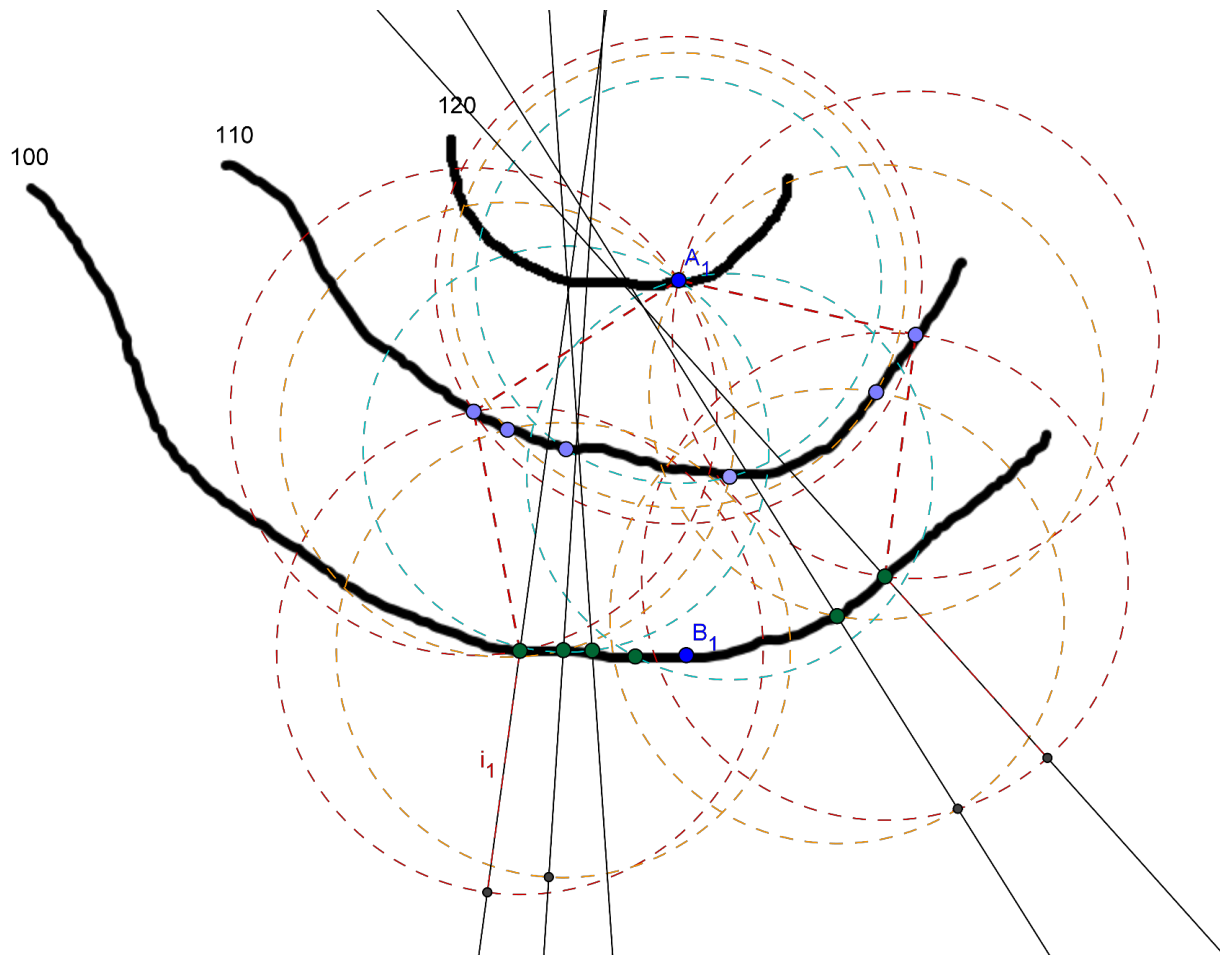


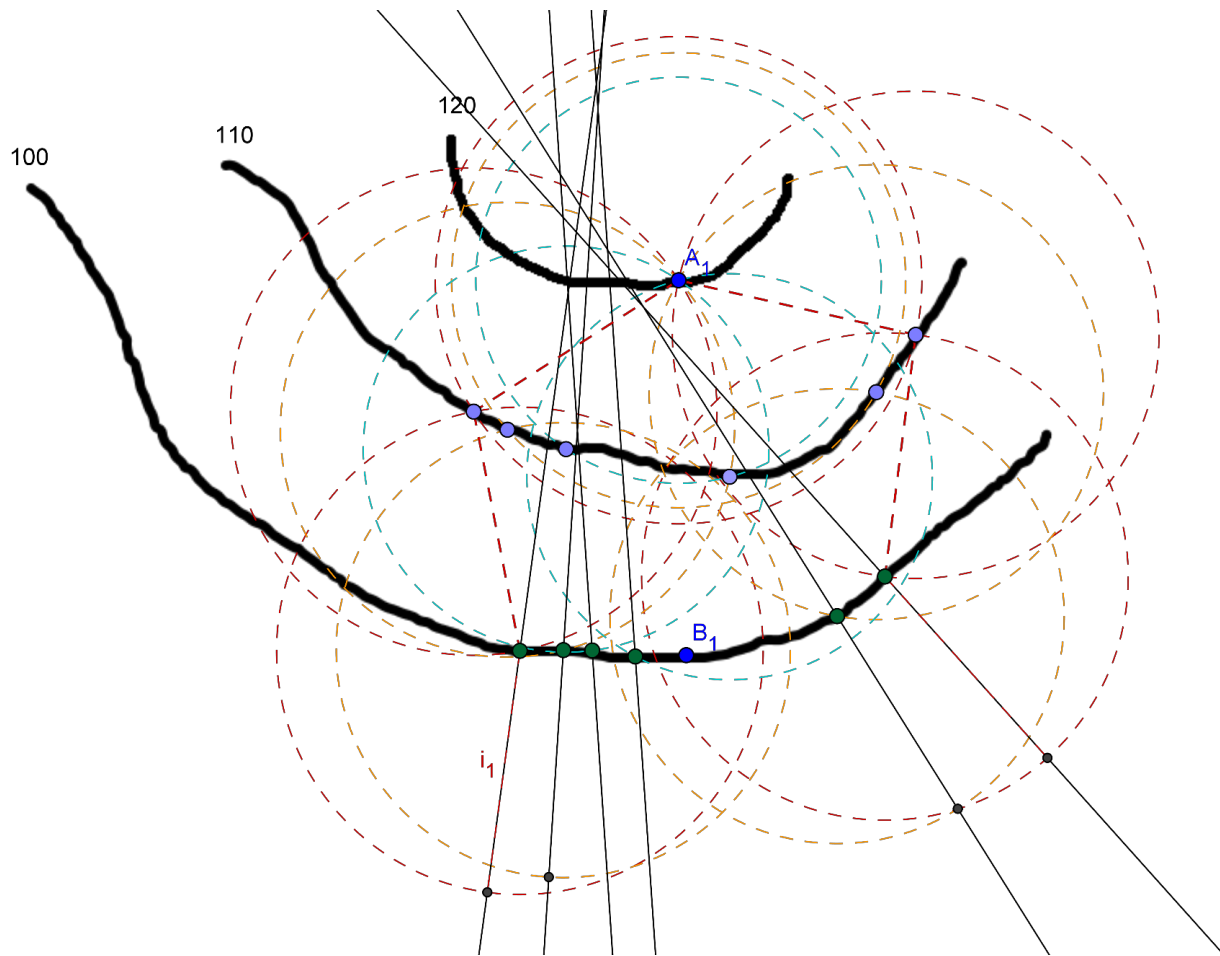


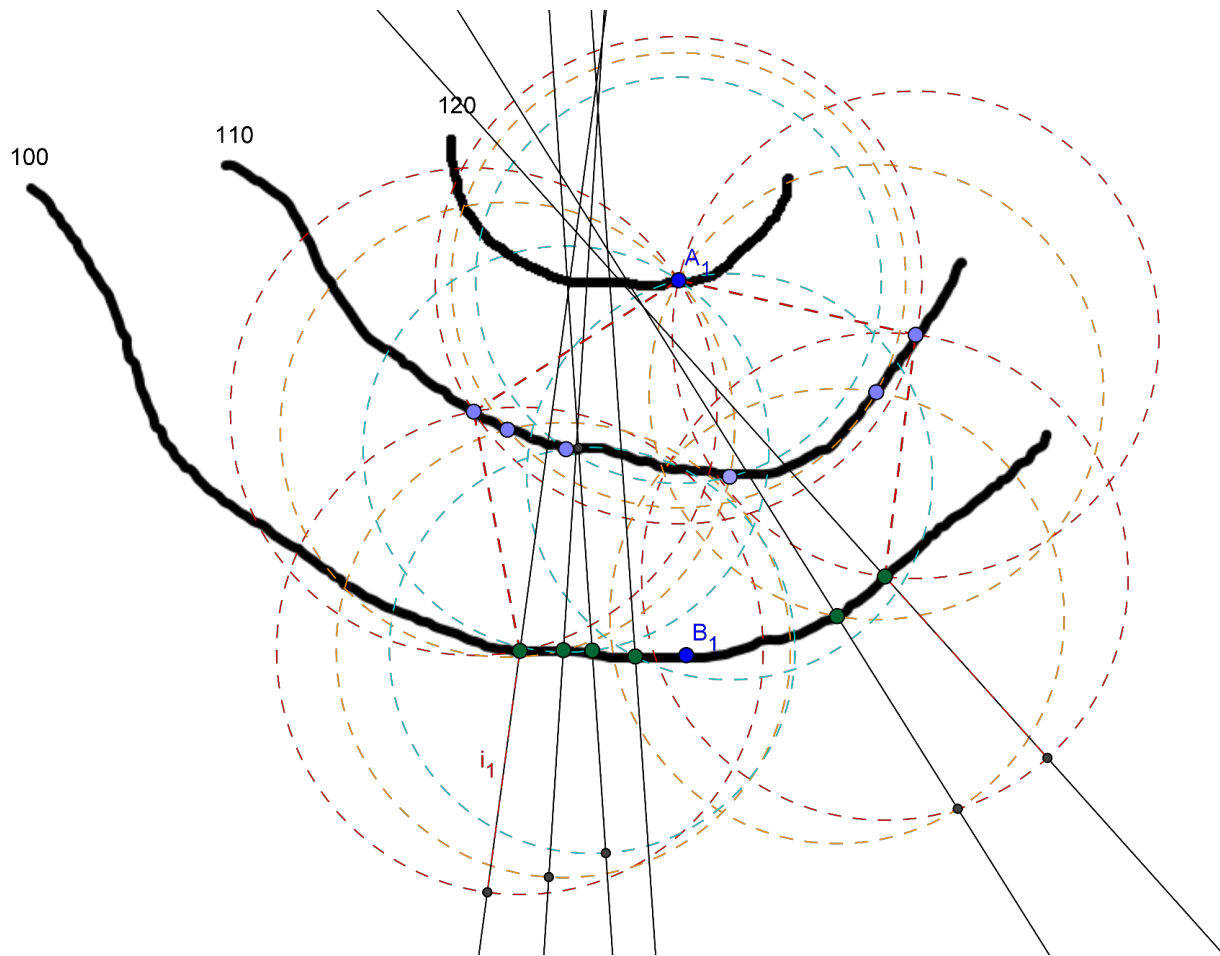


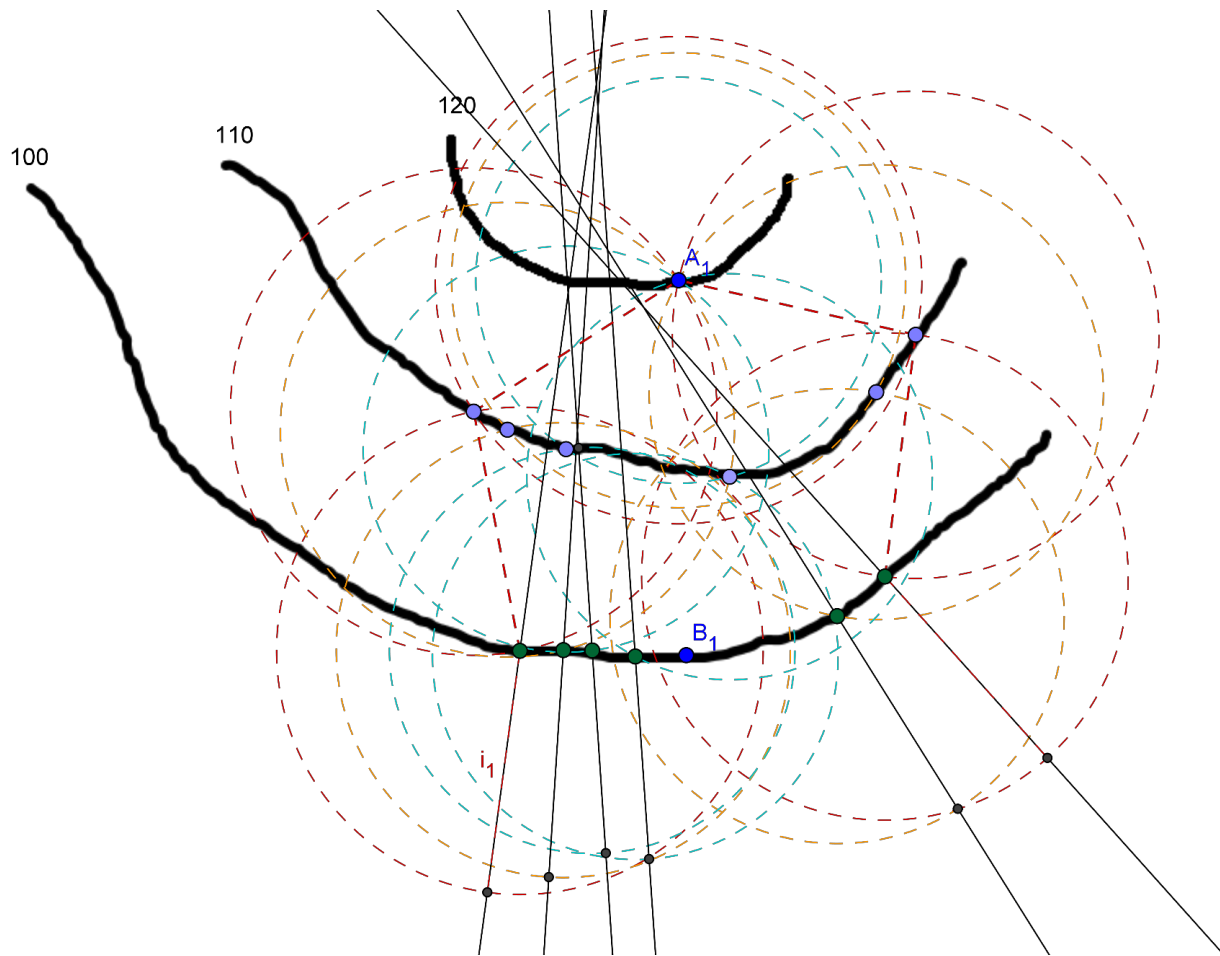


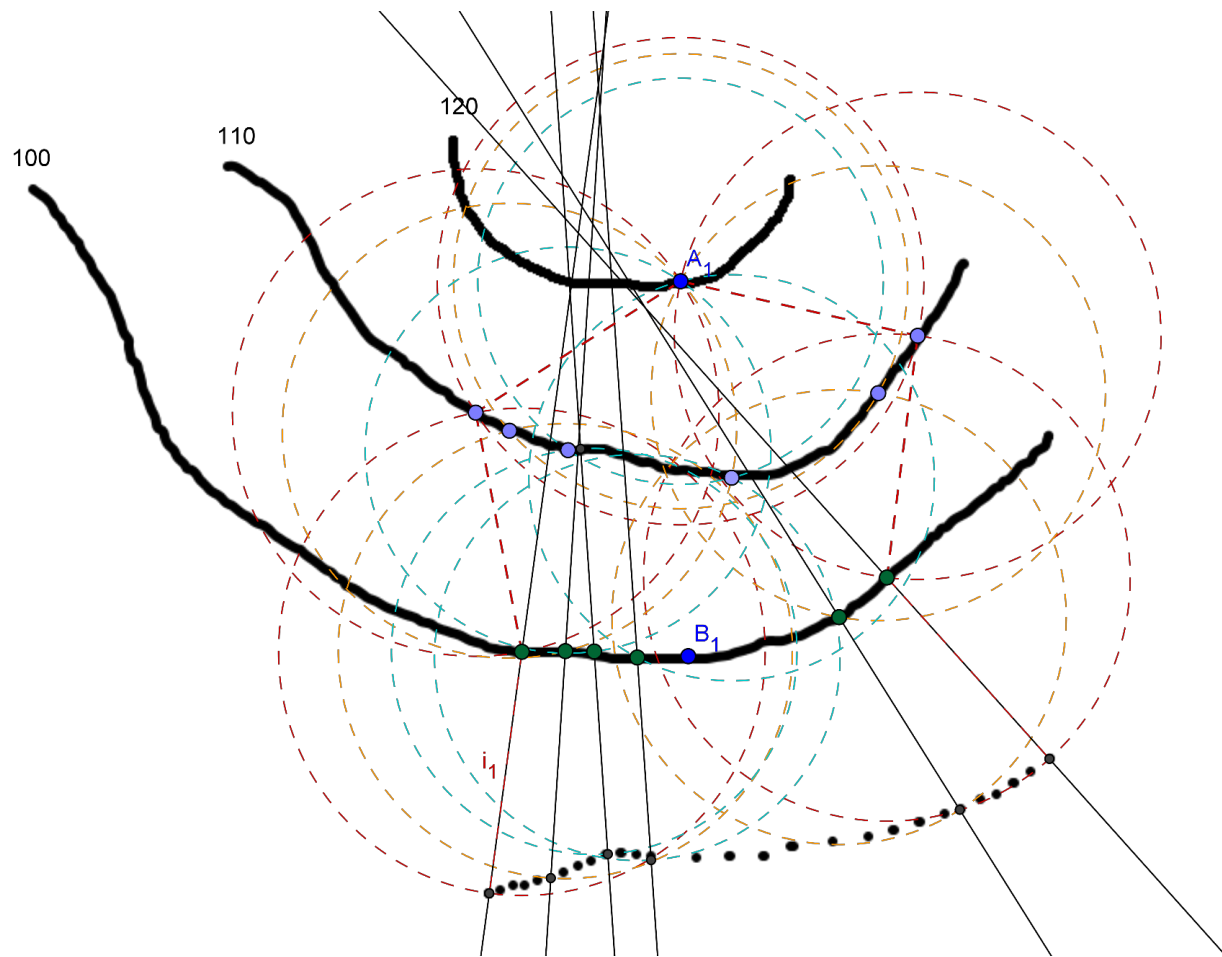


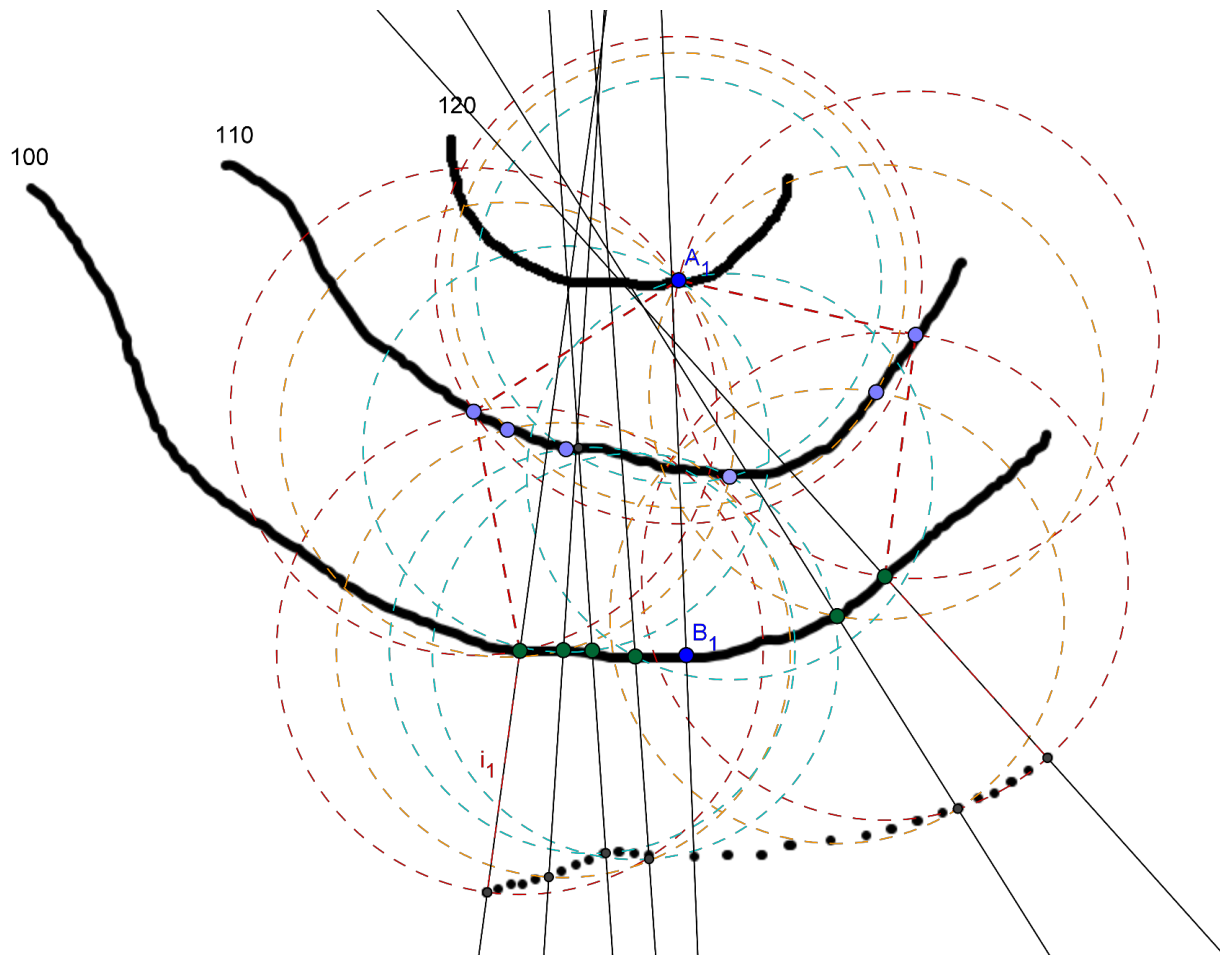


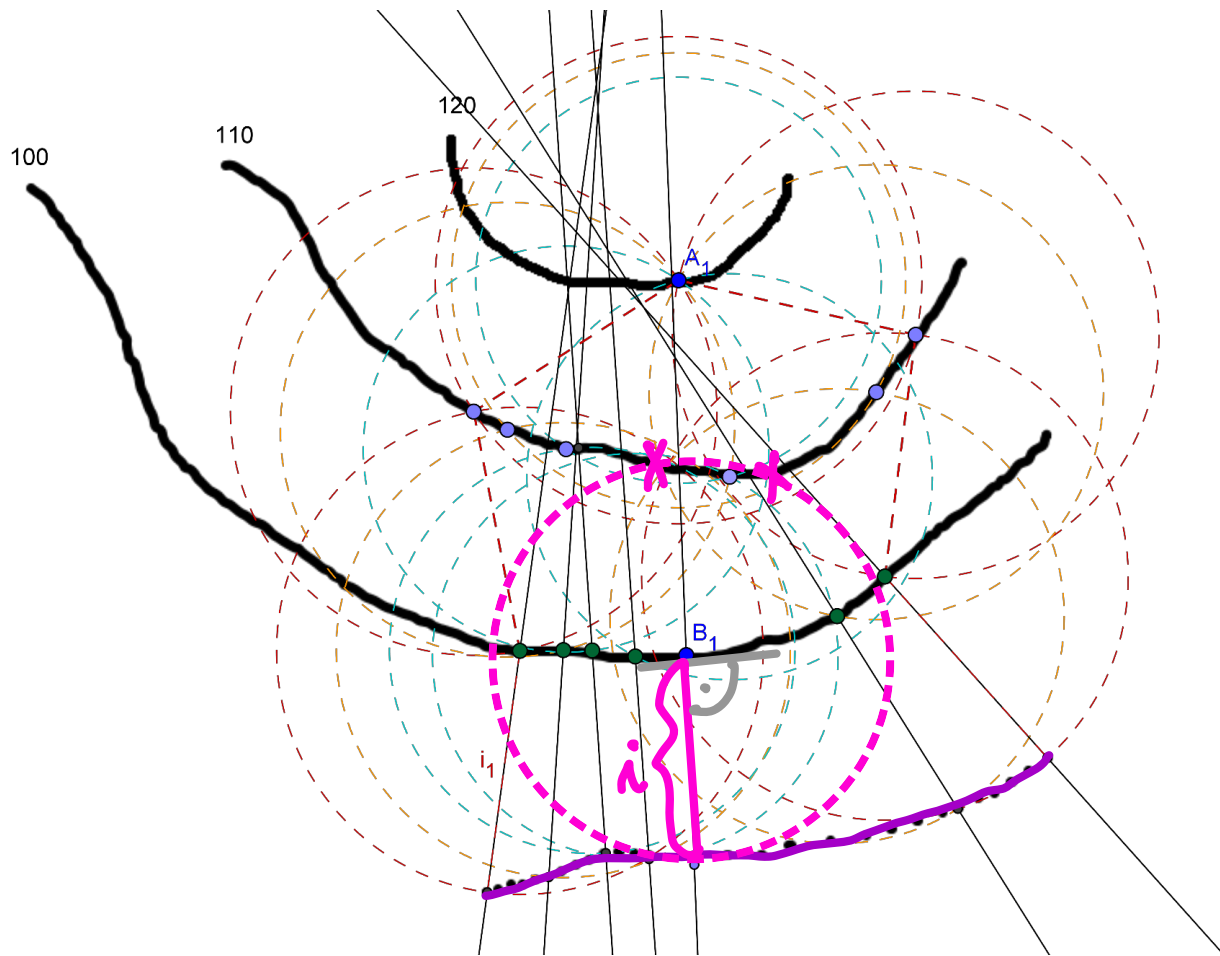


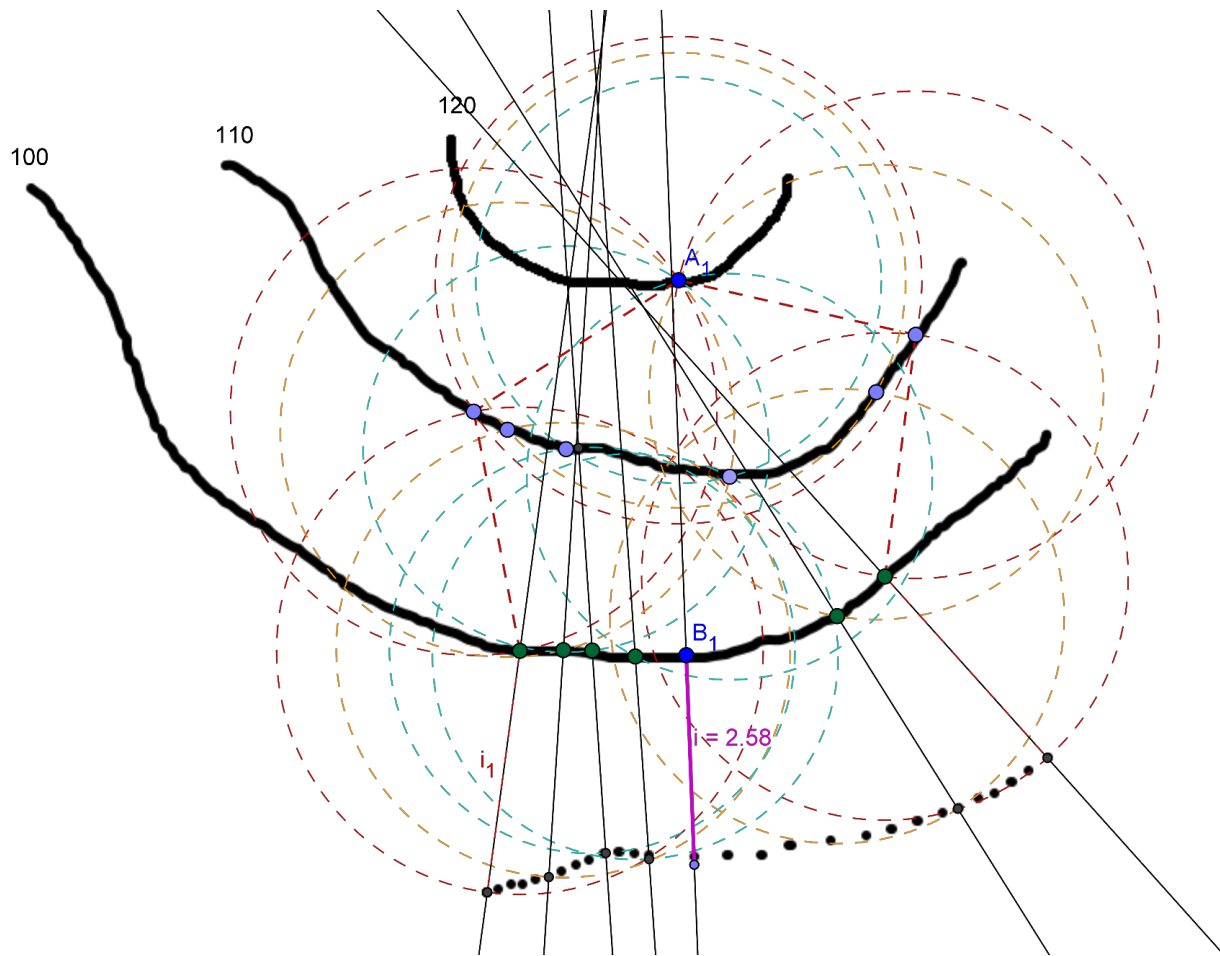


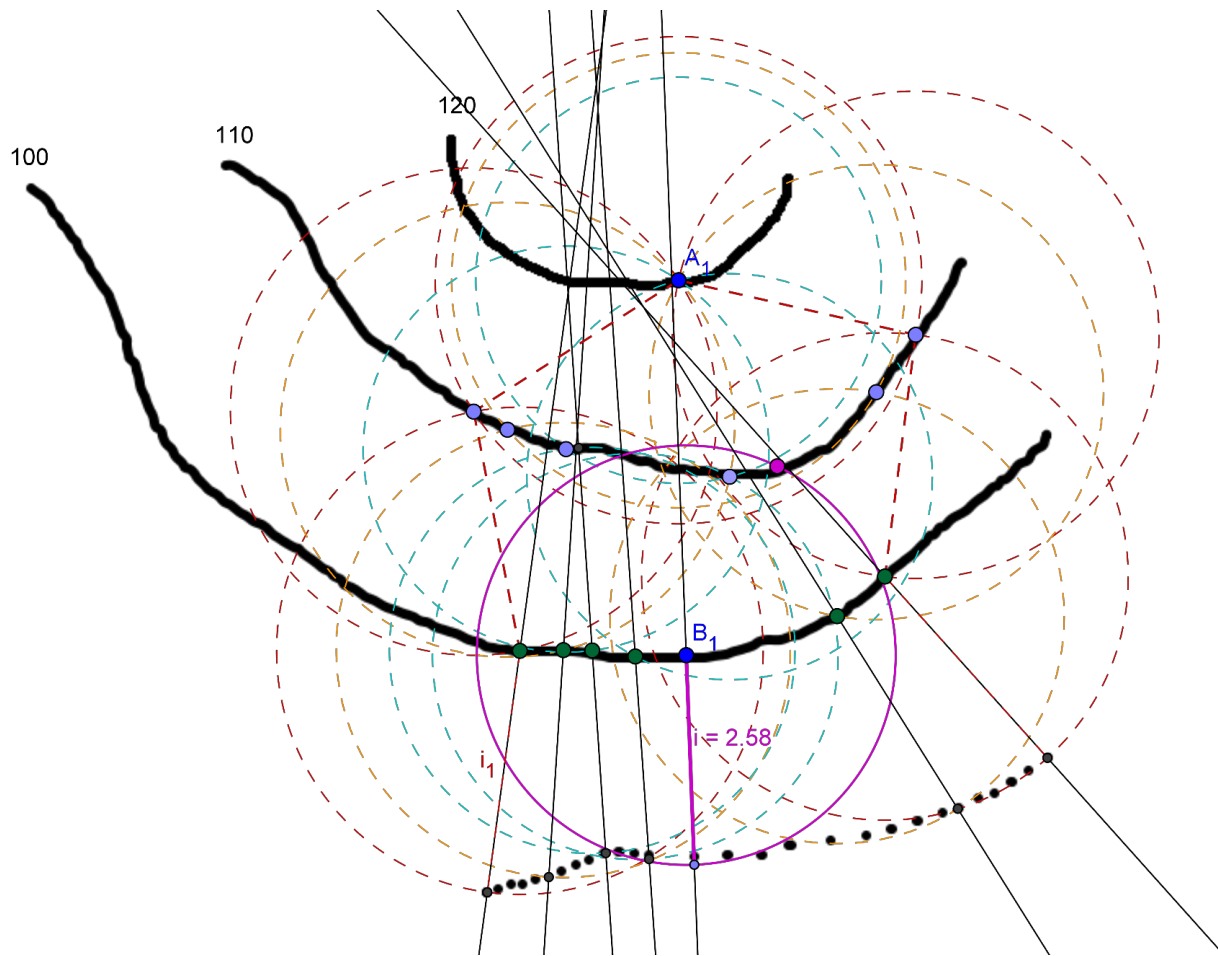


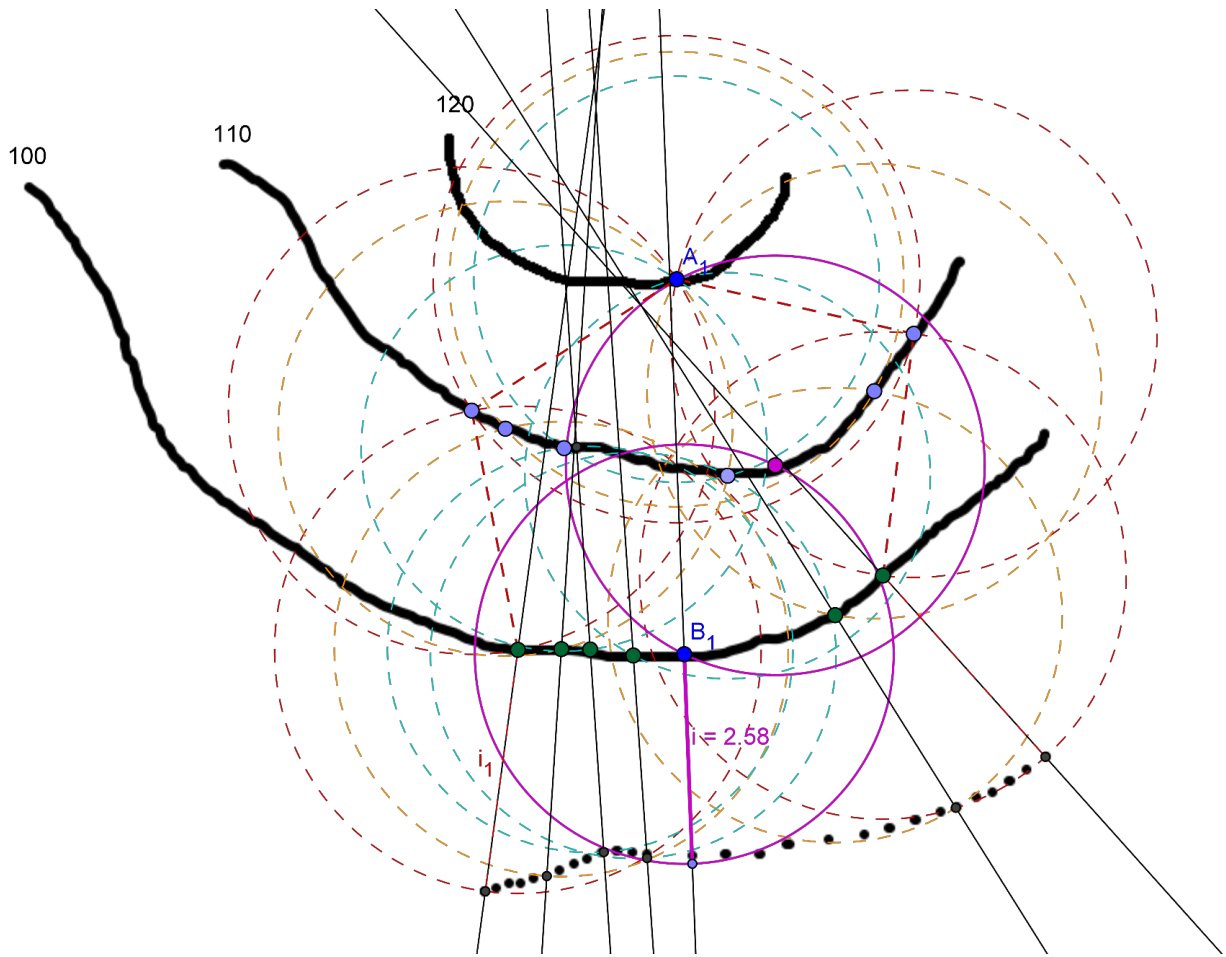


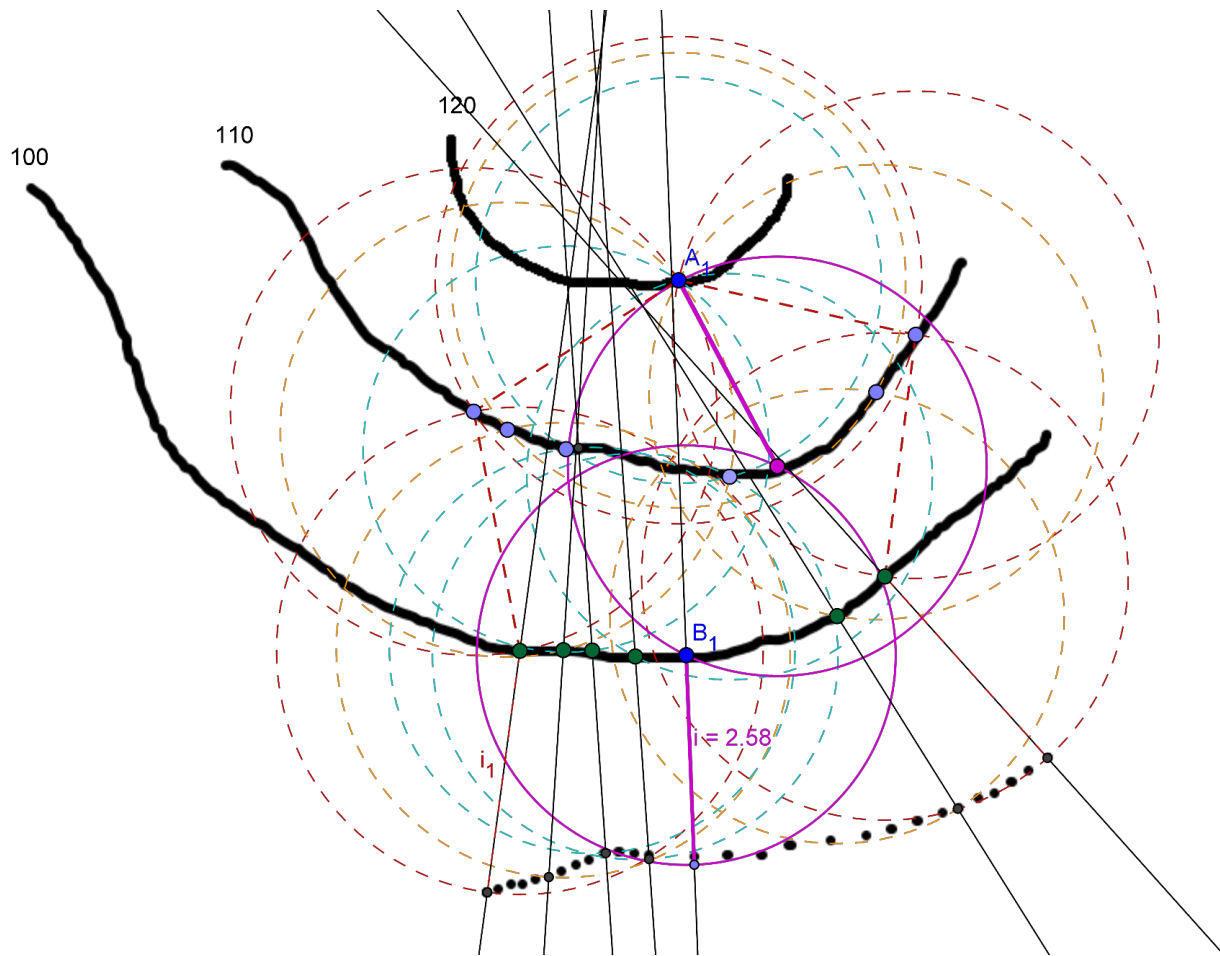


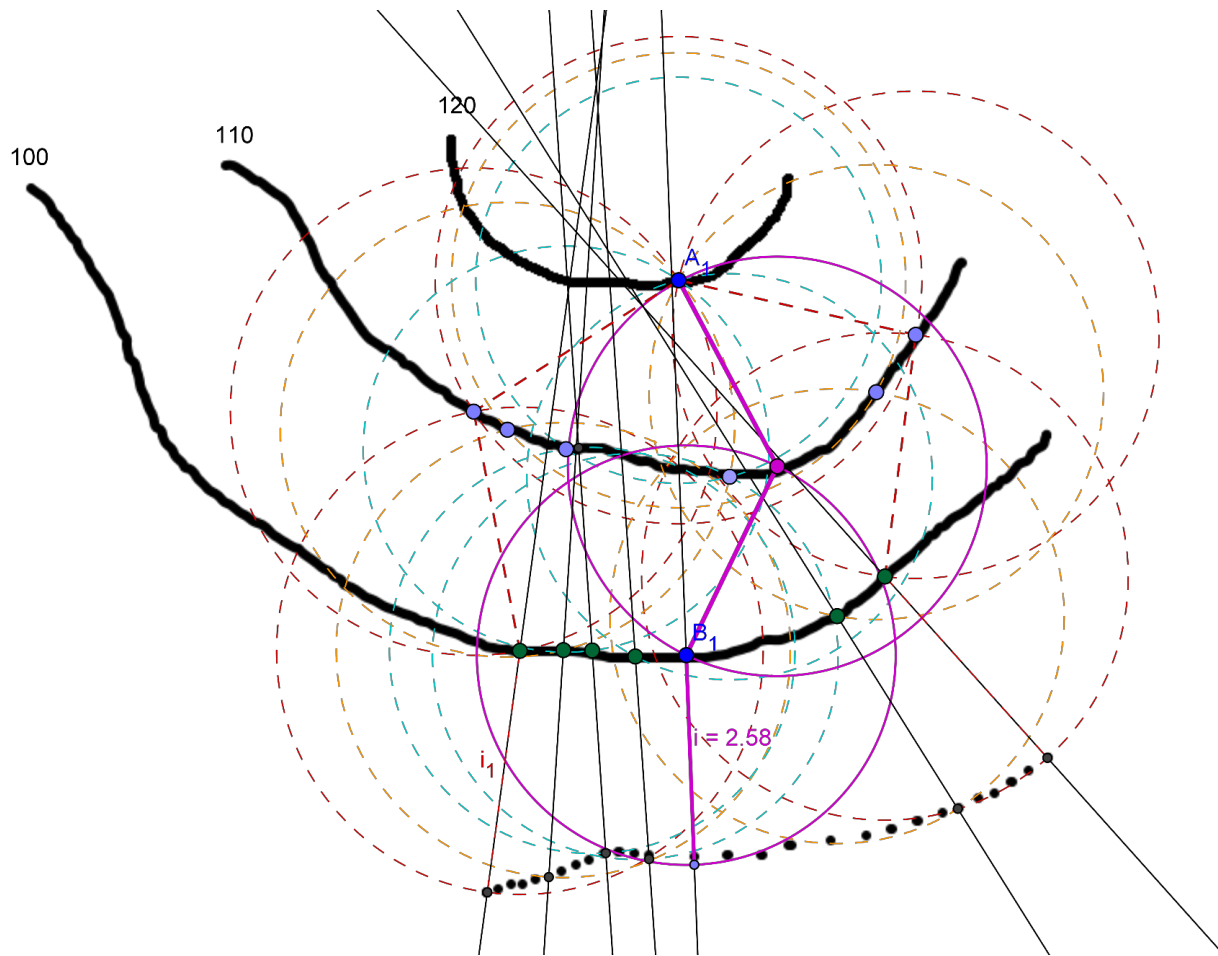








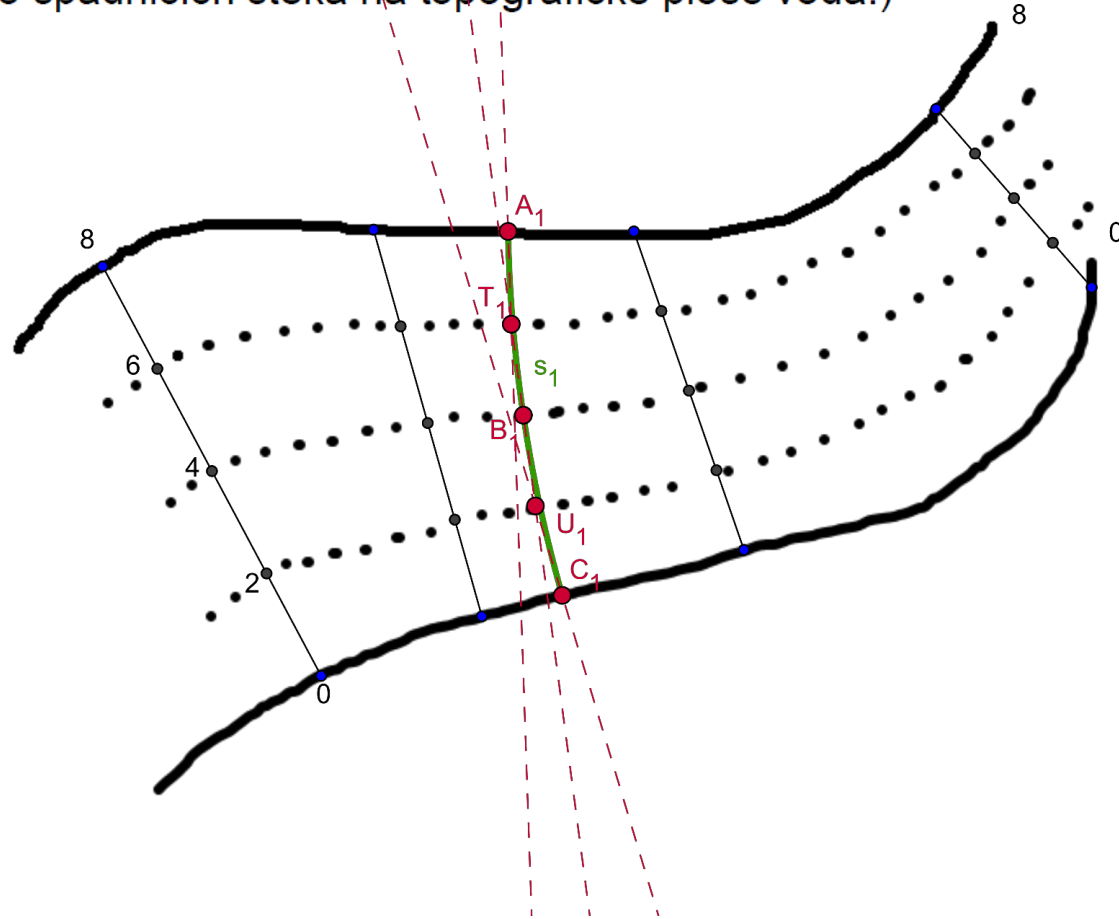


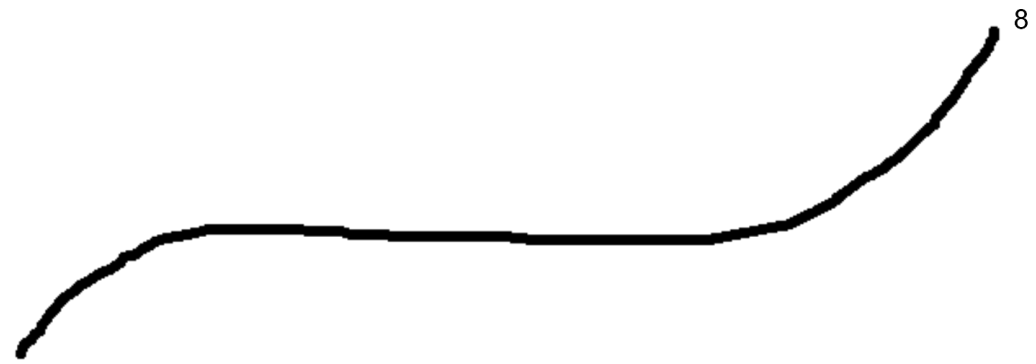


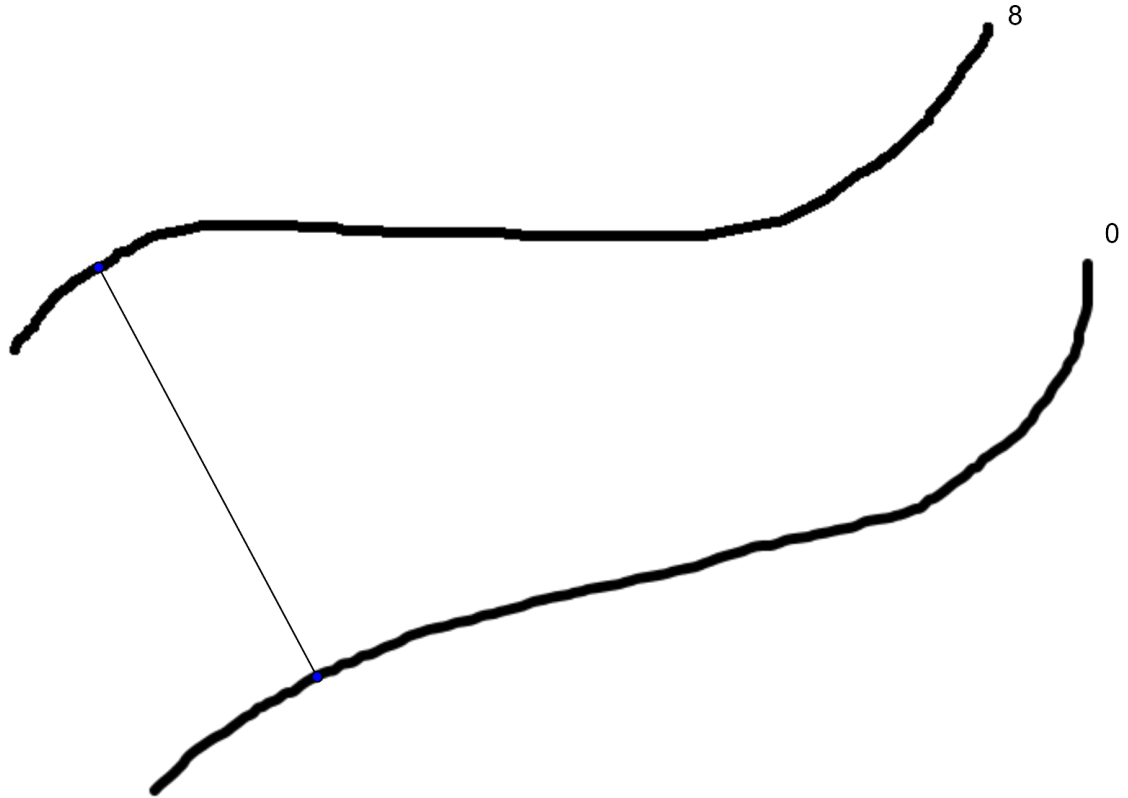
Křivka největšího spádu neboli spádová křivka protíná vrstevní křivky pod pravým úhlem a spojuje tak body topografické plochy ve směru největšího spádu. (Po spádnících stéká na topografické ploše voda.)

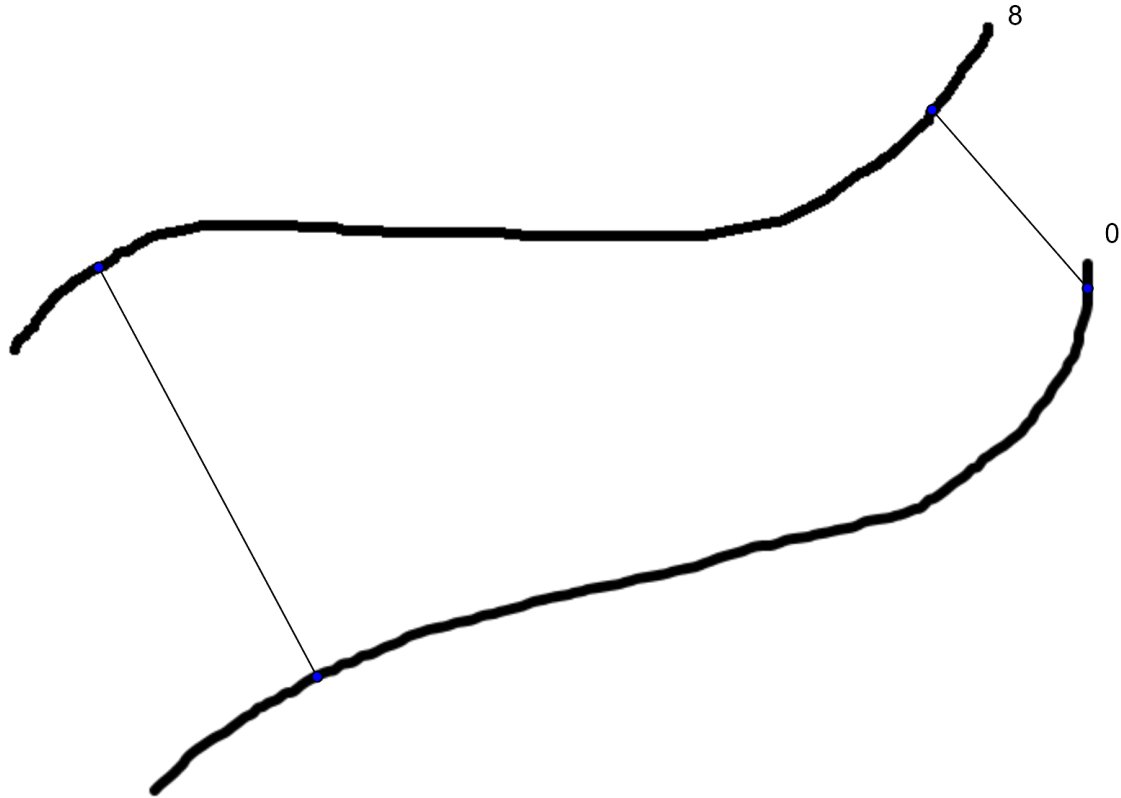
Bodem A plochy prochází jediná křivka největšího spádu. K sestrojení této spádnice užijeme obálku průmětů spádových přímk. Nejprve doplníme tzv. interkalární vrstevnice, Část topografické plochy mezi sousedními vrstevními rovinami nahradíme přímkovou plochou, jejíž tvořící přímky jsou pokud možno kolmé k sousedním vrstevnicím. Vzniklé tětivy rozdělíme a odpovídající body určují interkalární souřadnice, ty kreslíme čárkovaně. V bodě A sestrojíme kolmici k vrstevnici 8 a najdeme průsečík T s interkalární vrstevnicí 6. Bod B na vrstevnici 4 určíme tak, aby spojnice TB byla kolmá k vrstevnici 4. Analogicky najdeme bod C. Spádová křivka prochází body ABC.

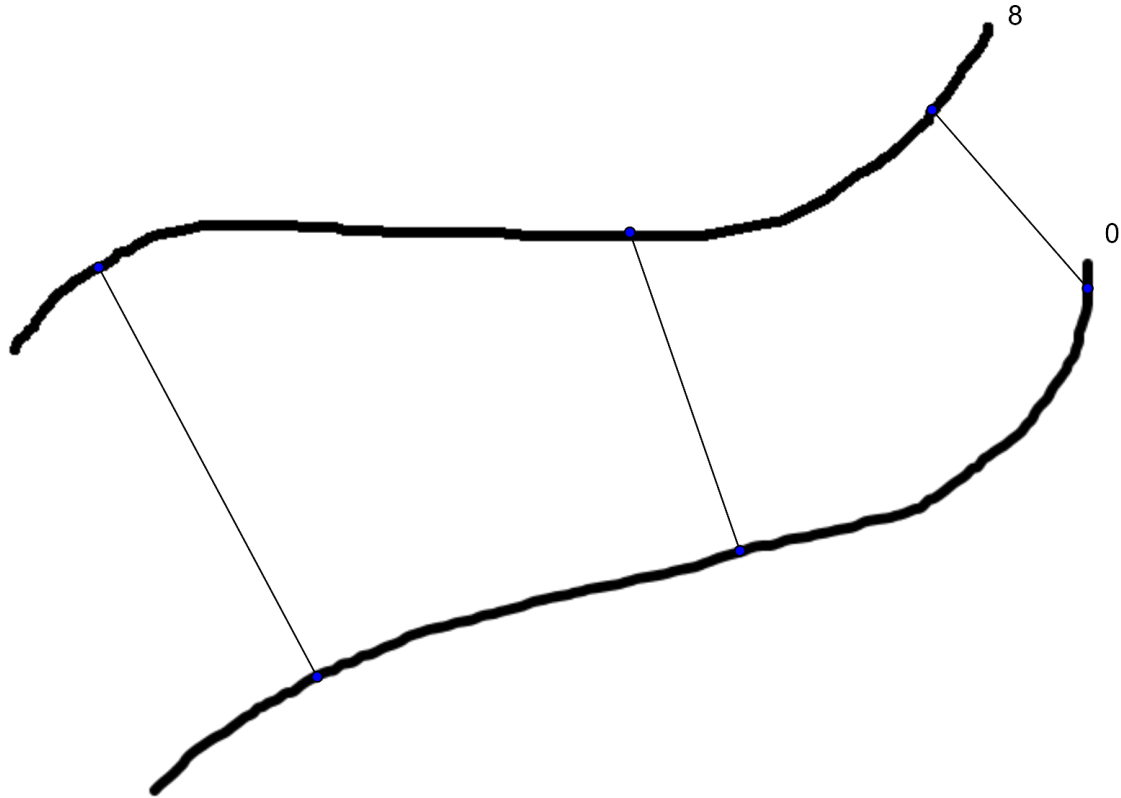
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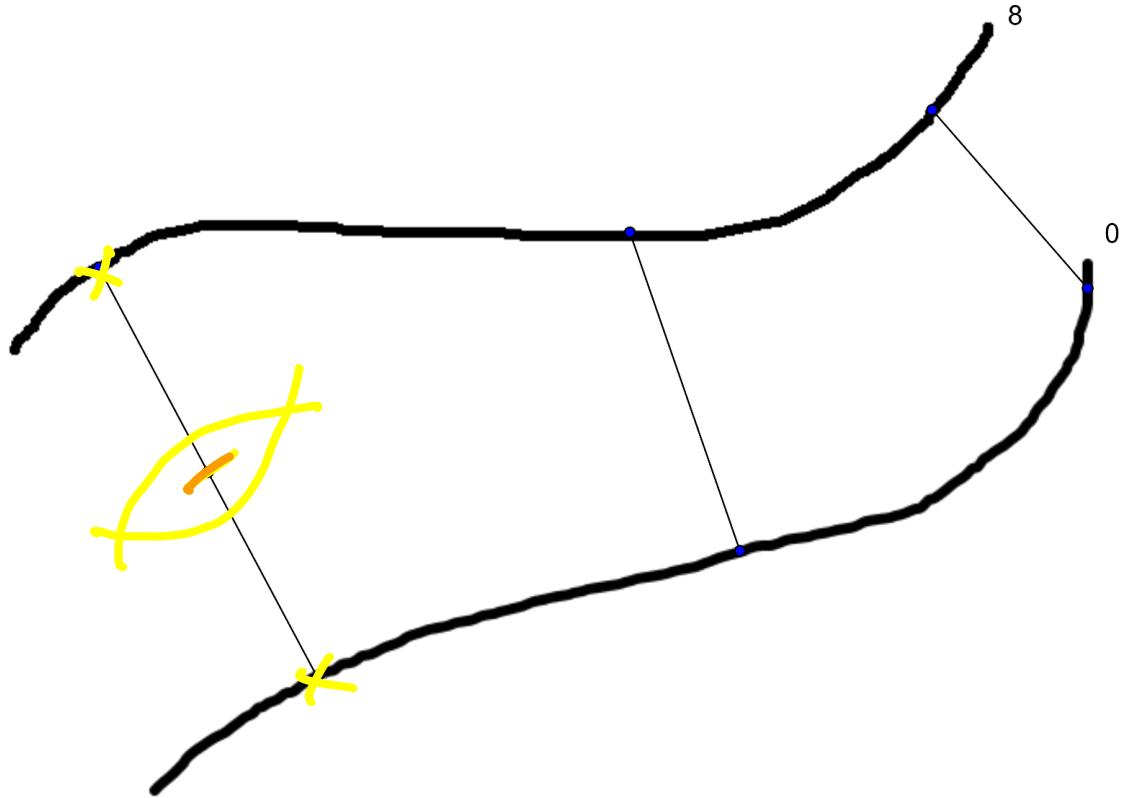


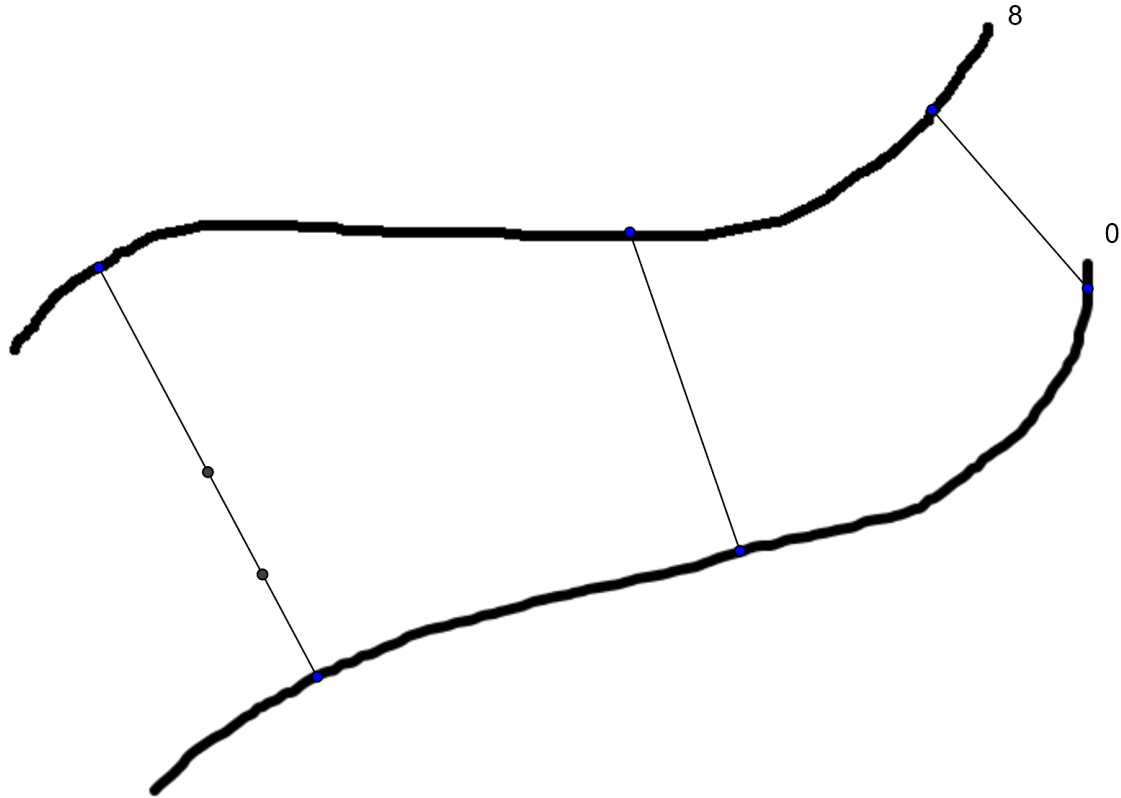


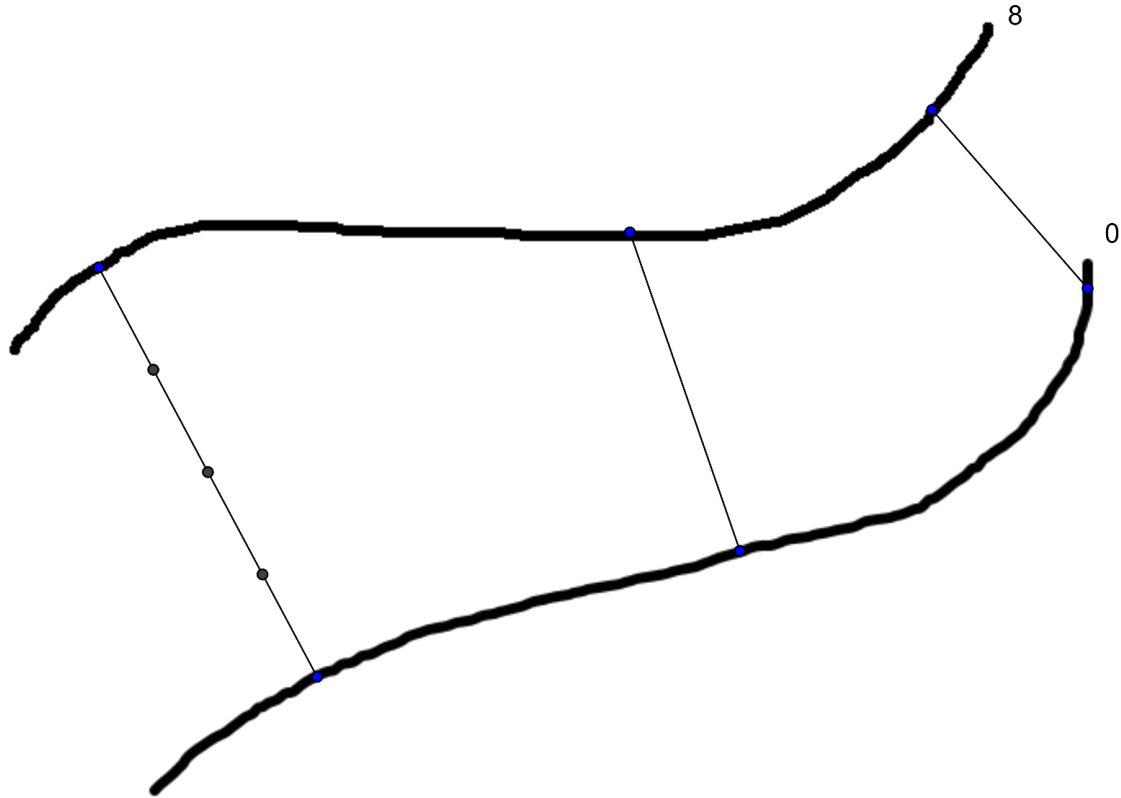


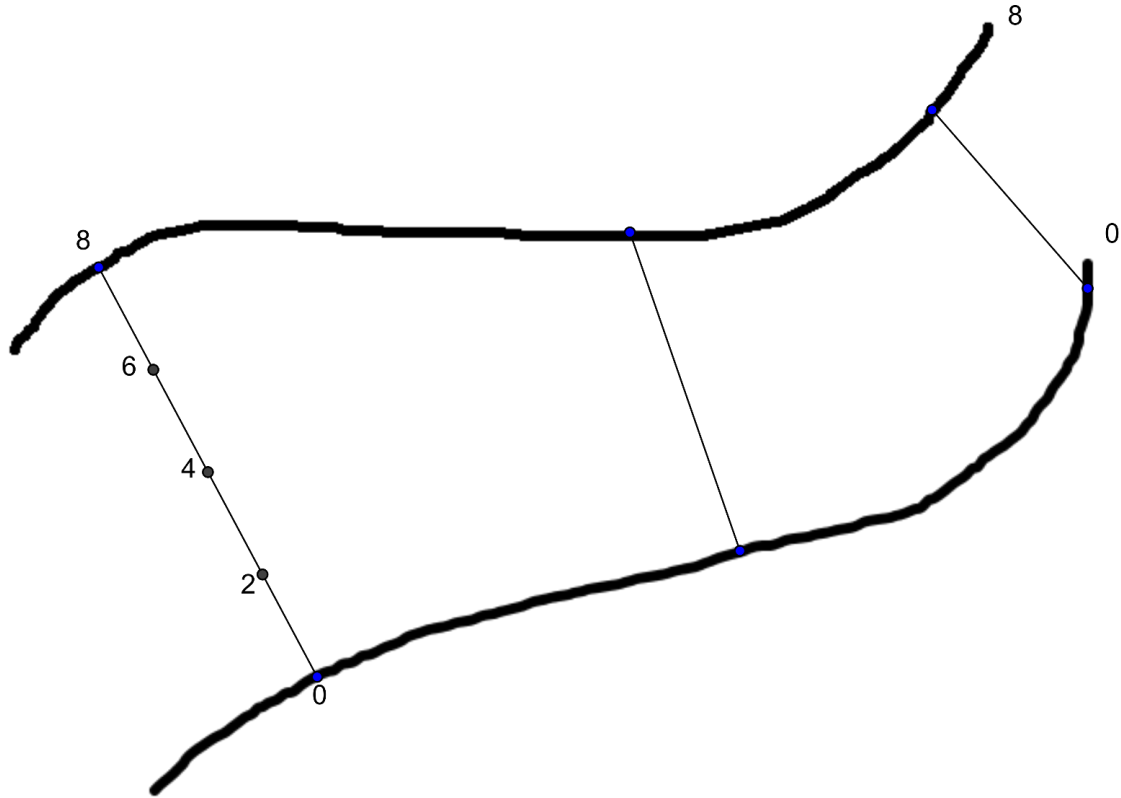


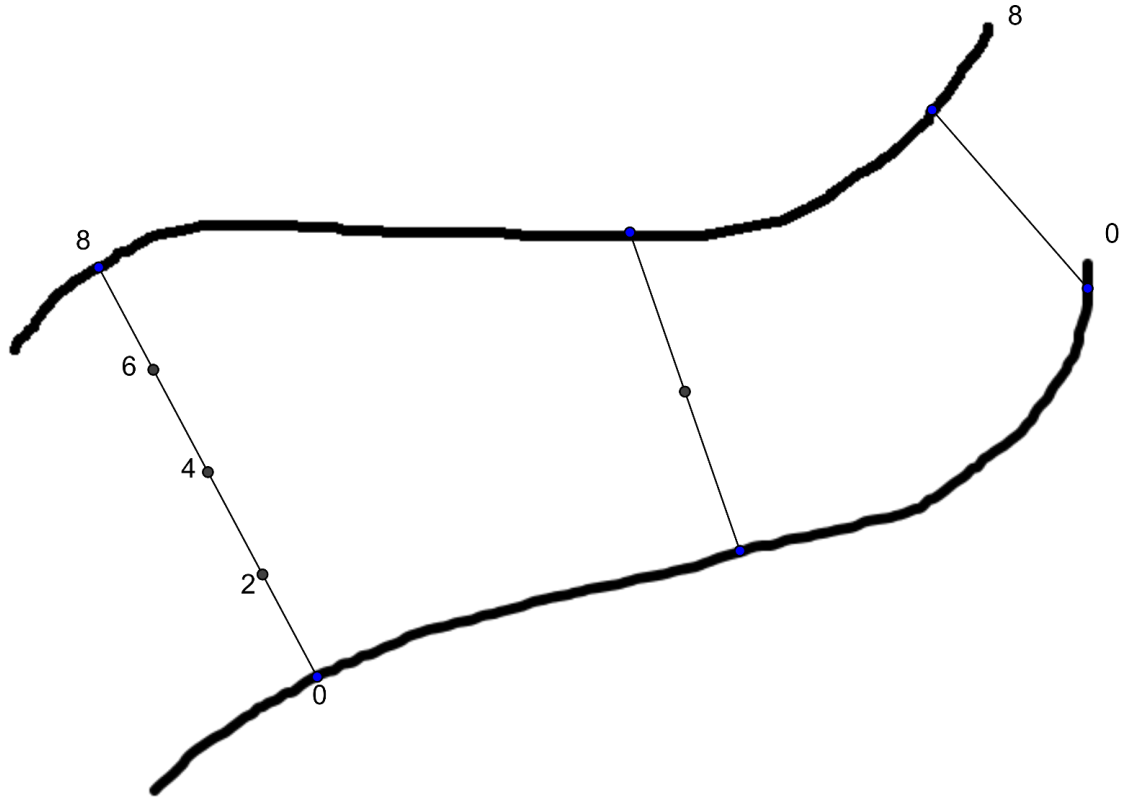


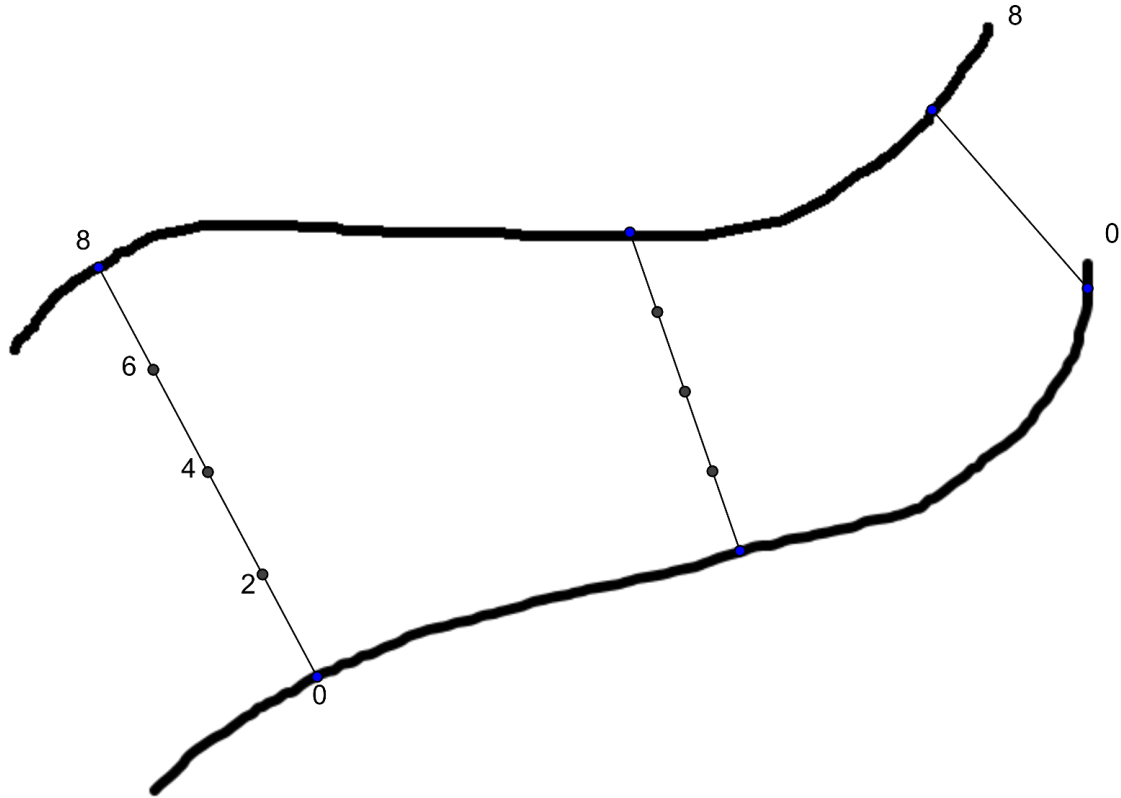


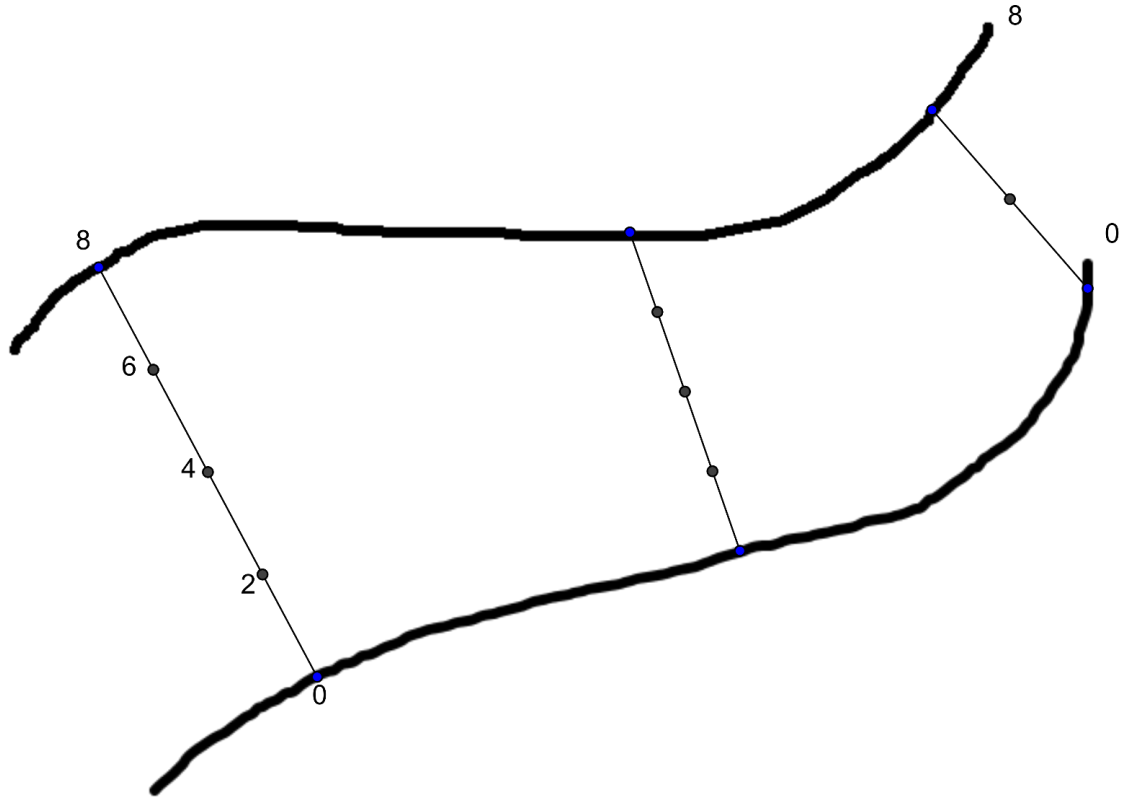


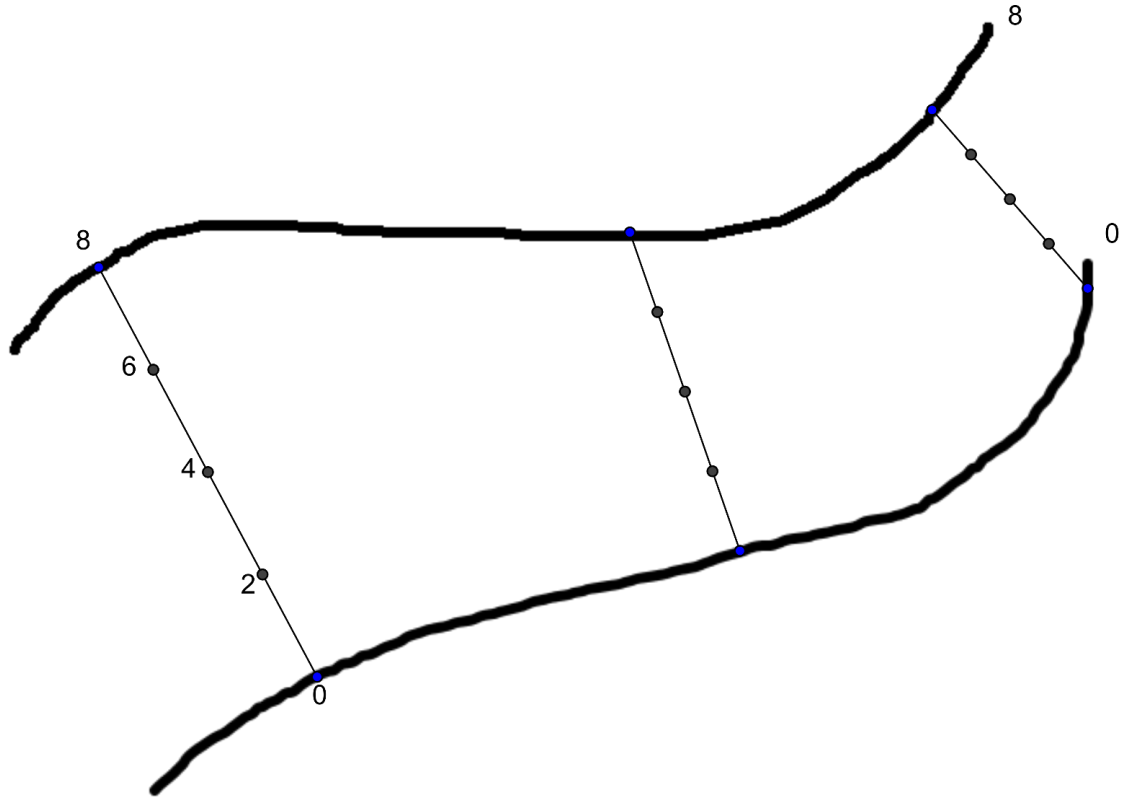


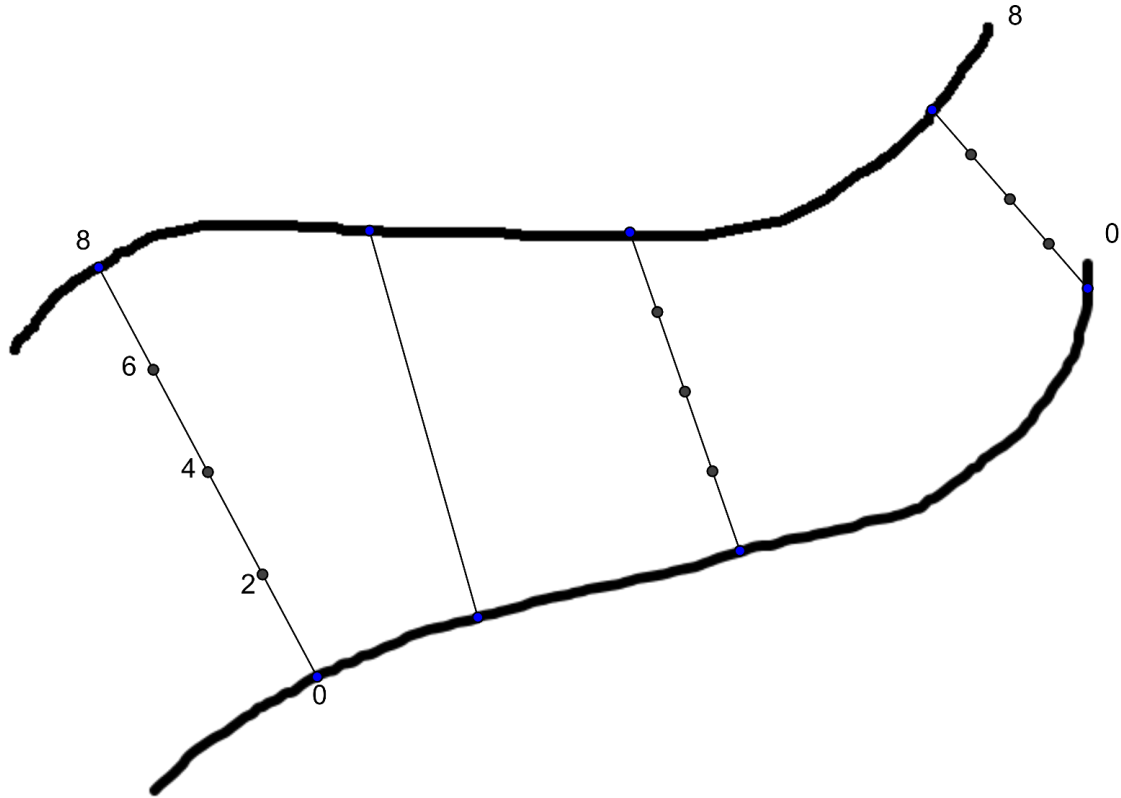


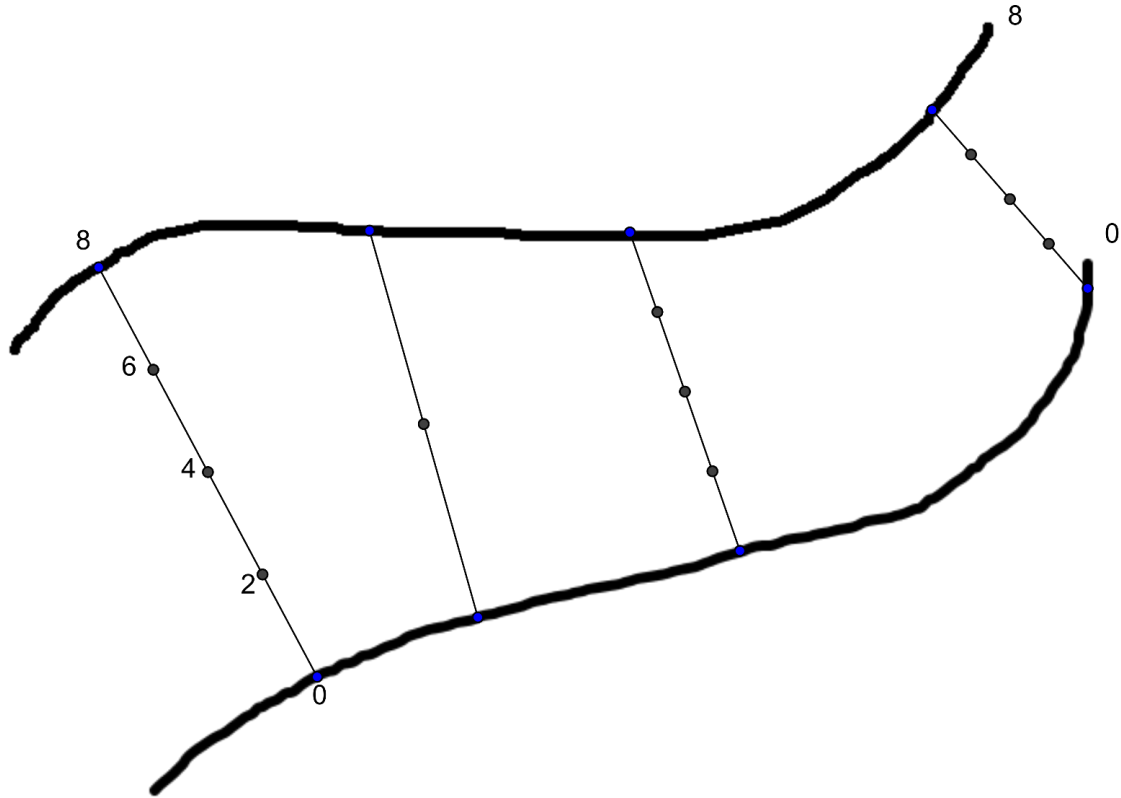




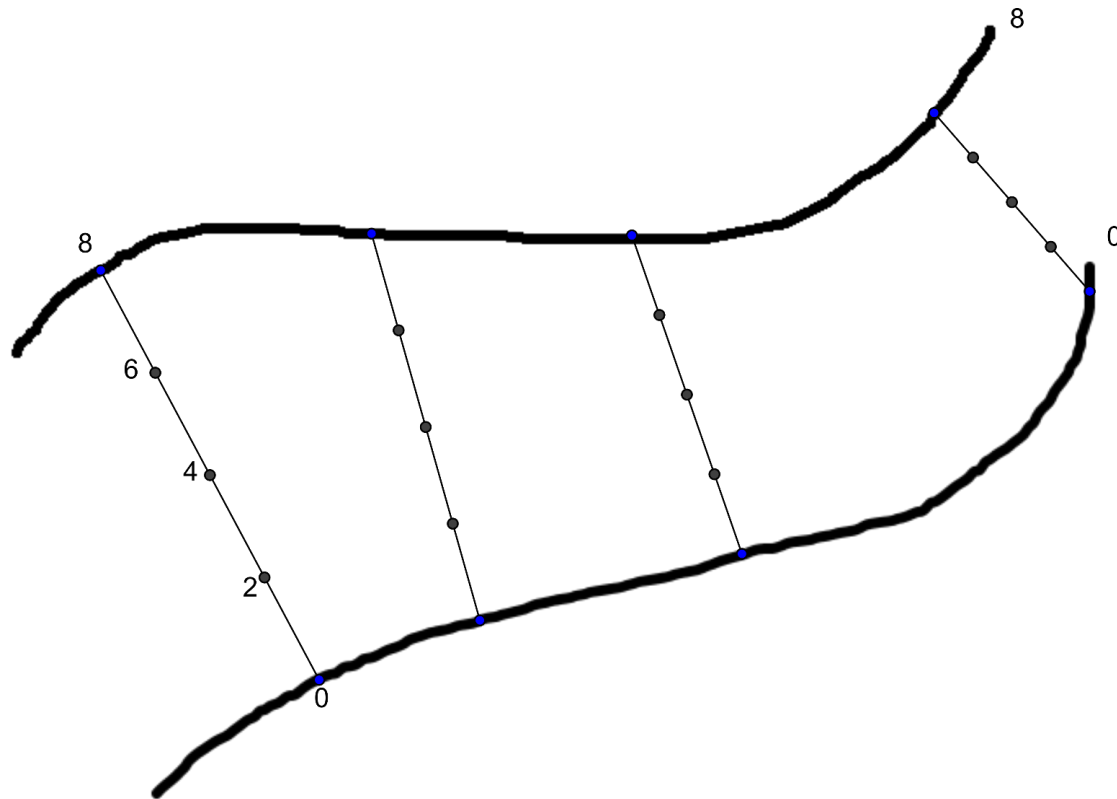




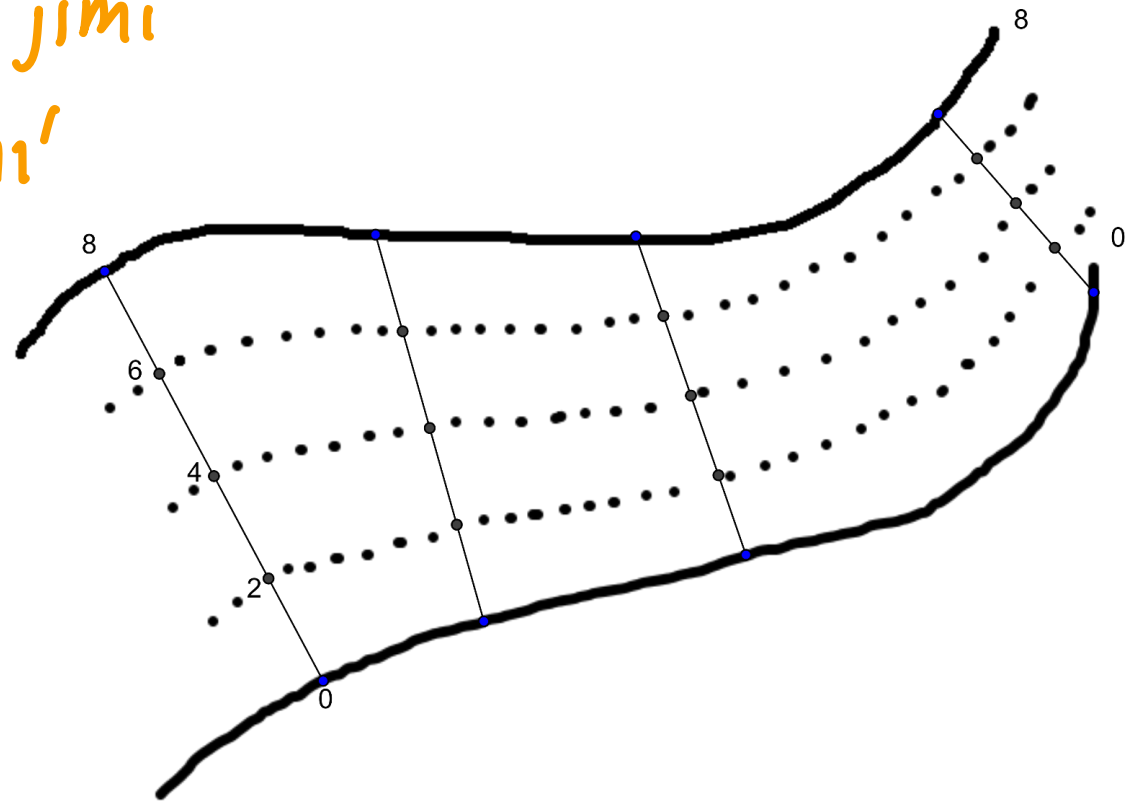




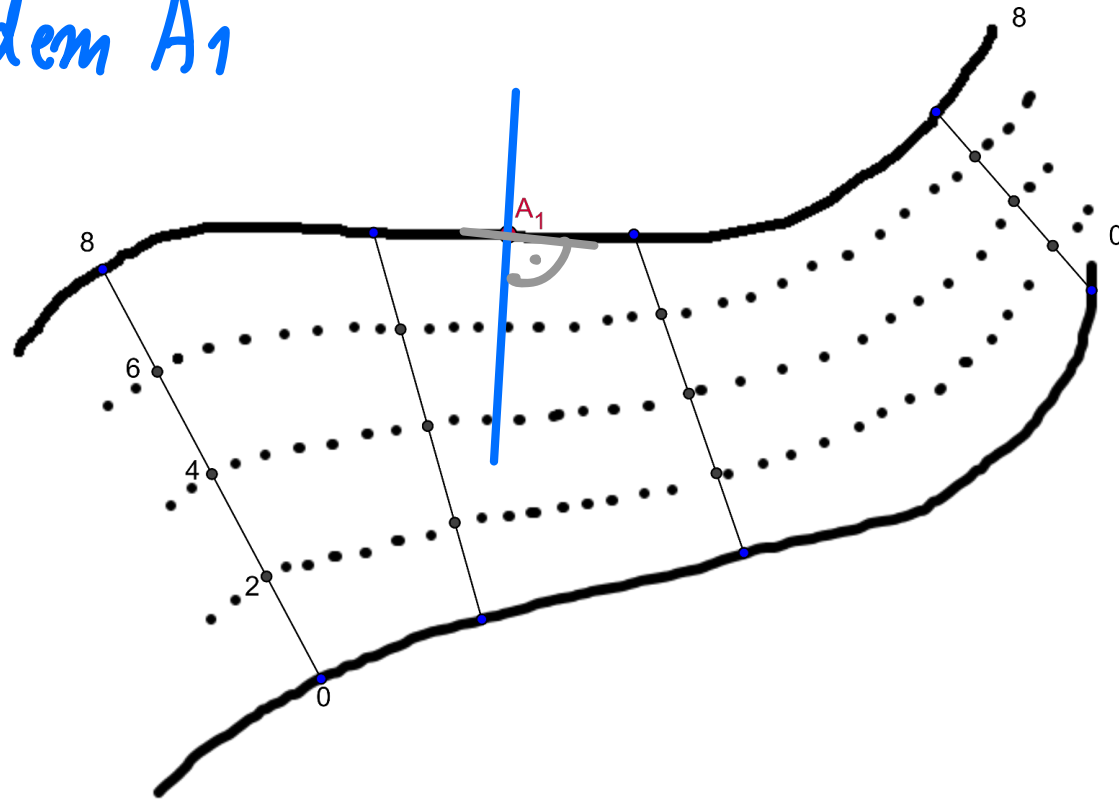
rozdelime
u'secky na 4
stejne
c'asti

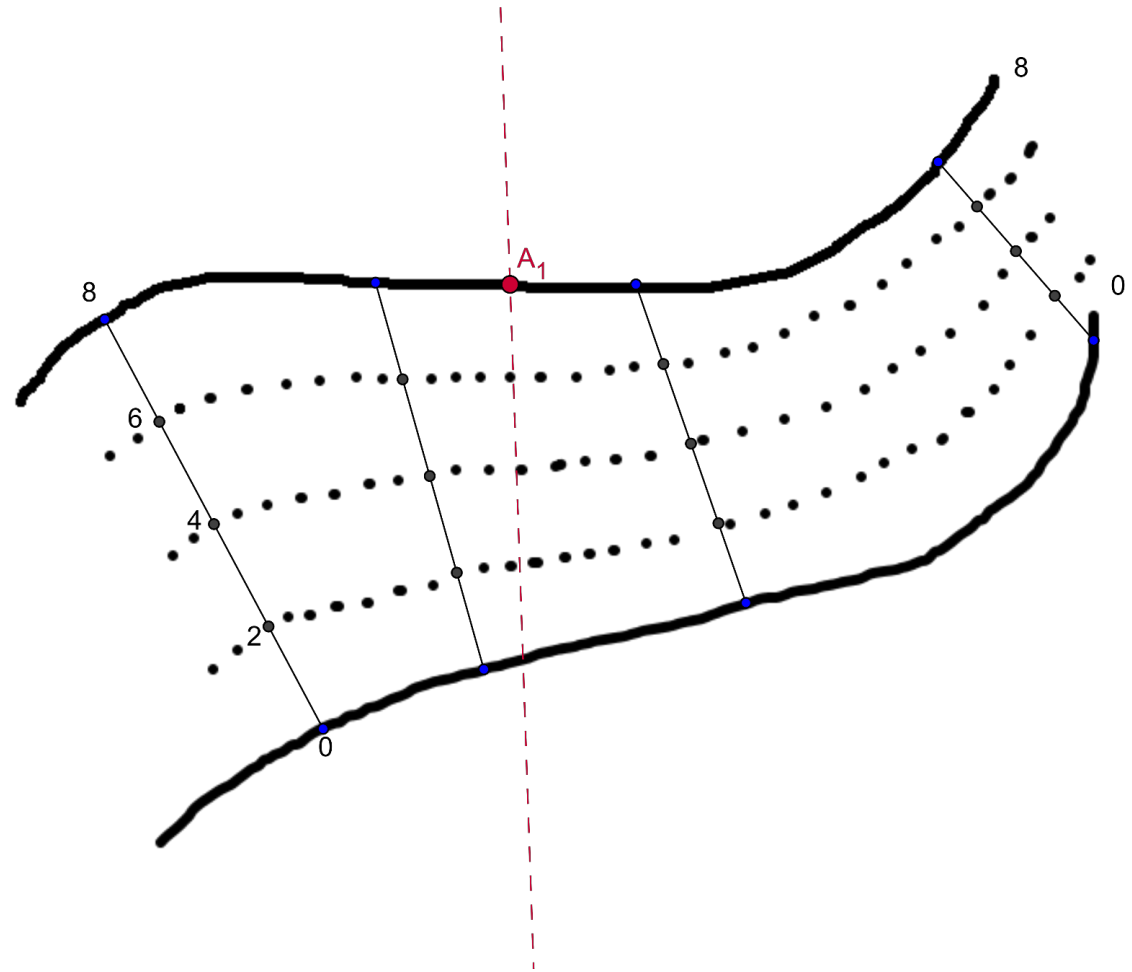


proložime jimí
interkalární'
vrstevnice

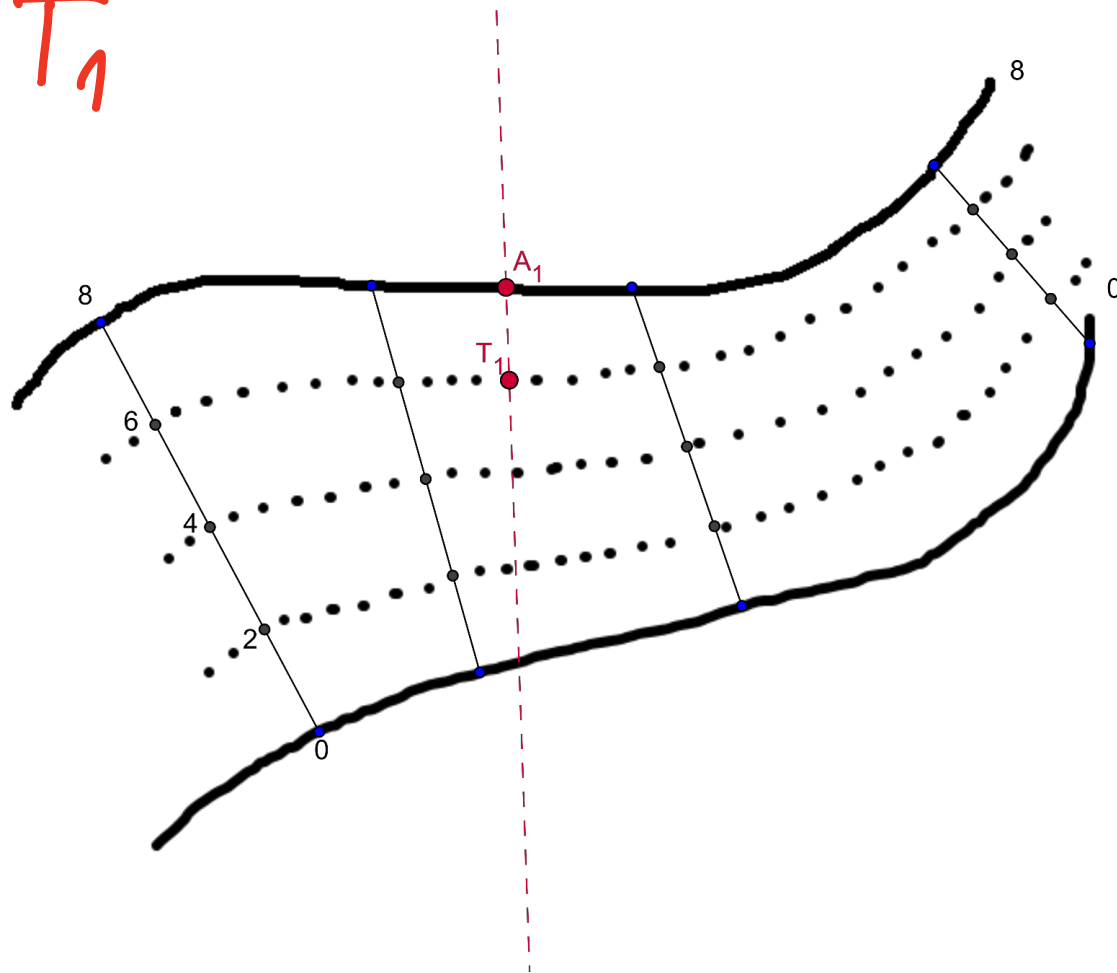


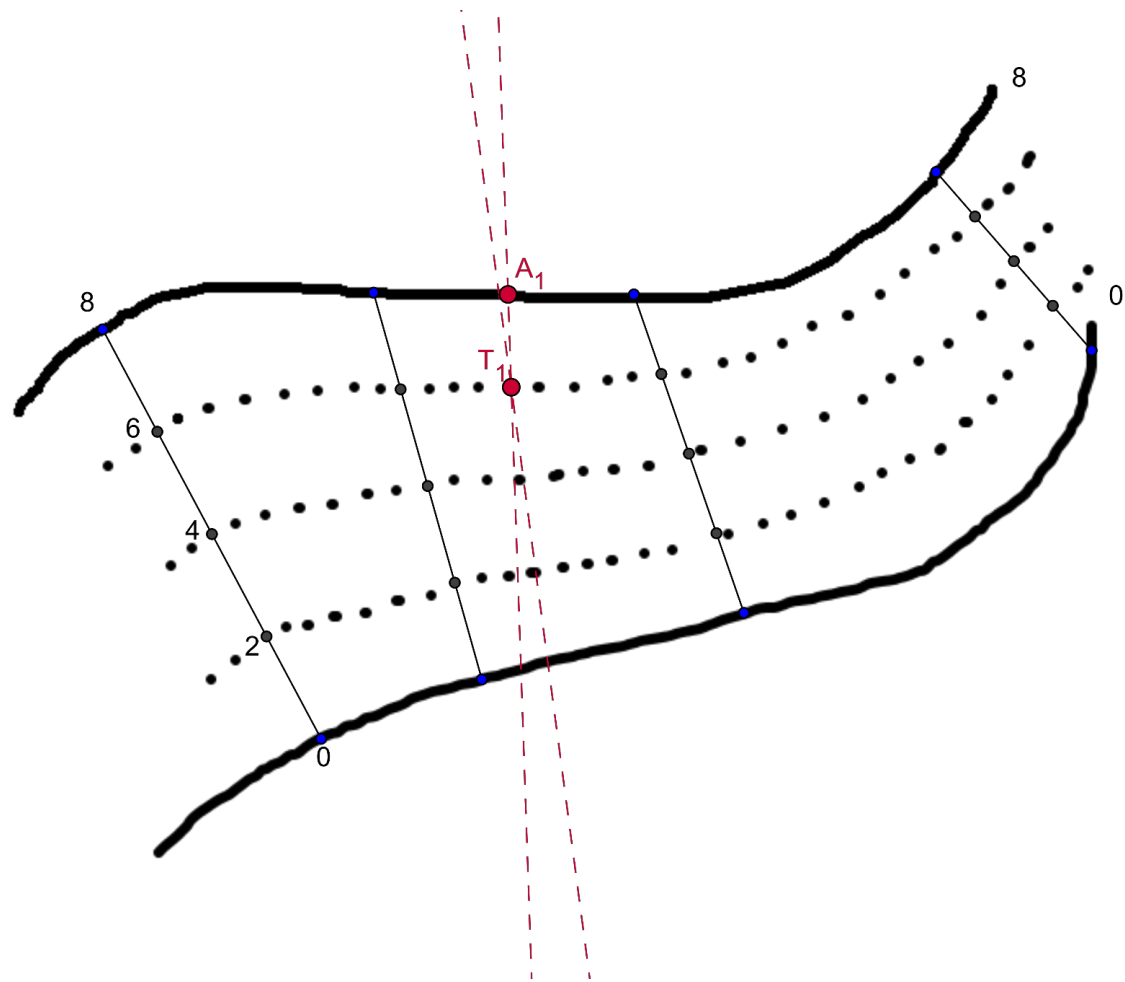
kolmice bodem A_1





průsečík T_1
kolmice
s 6





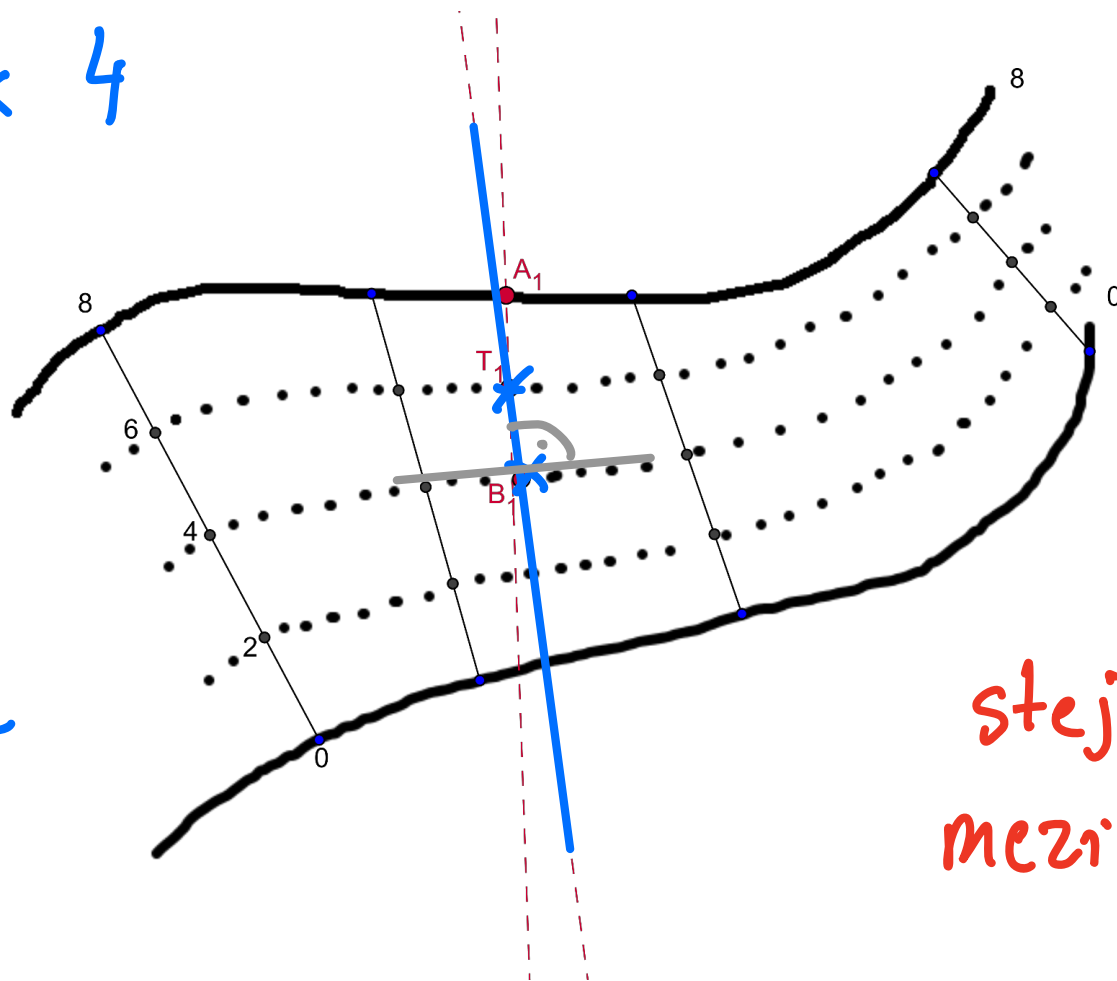
kolmice k 4

tak, aby
procházela

T_1

→ získáme

B_1

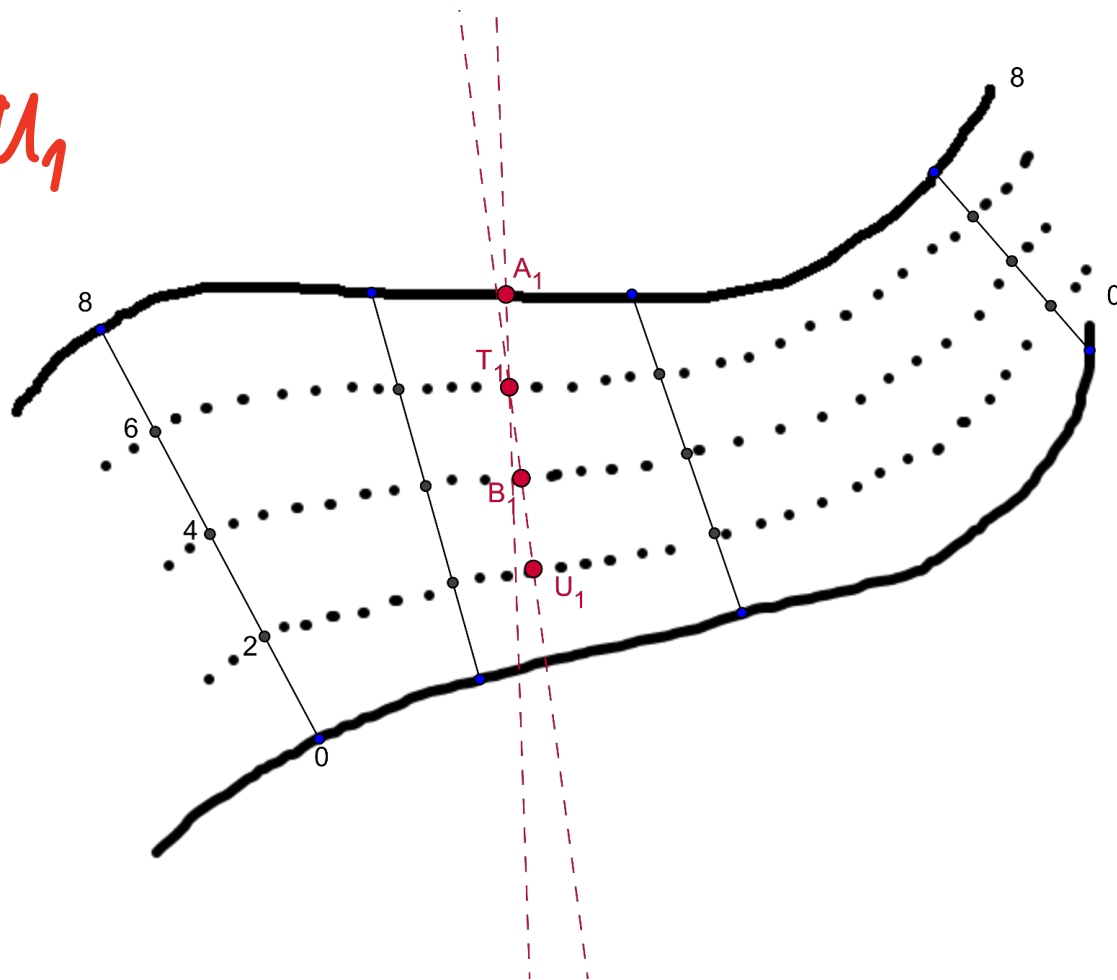


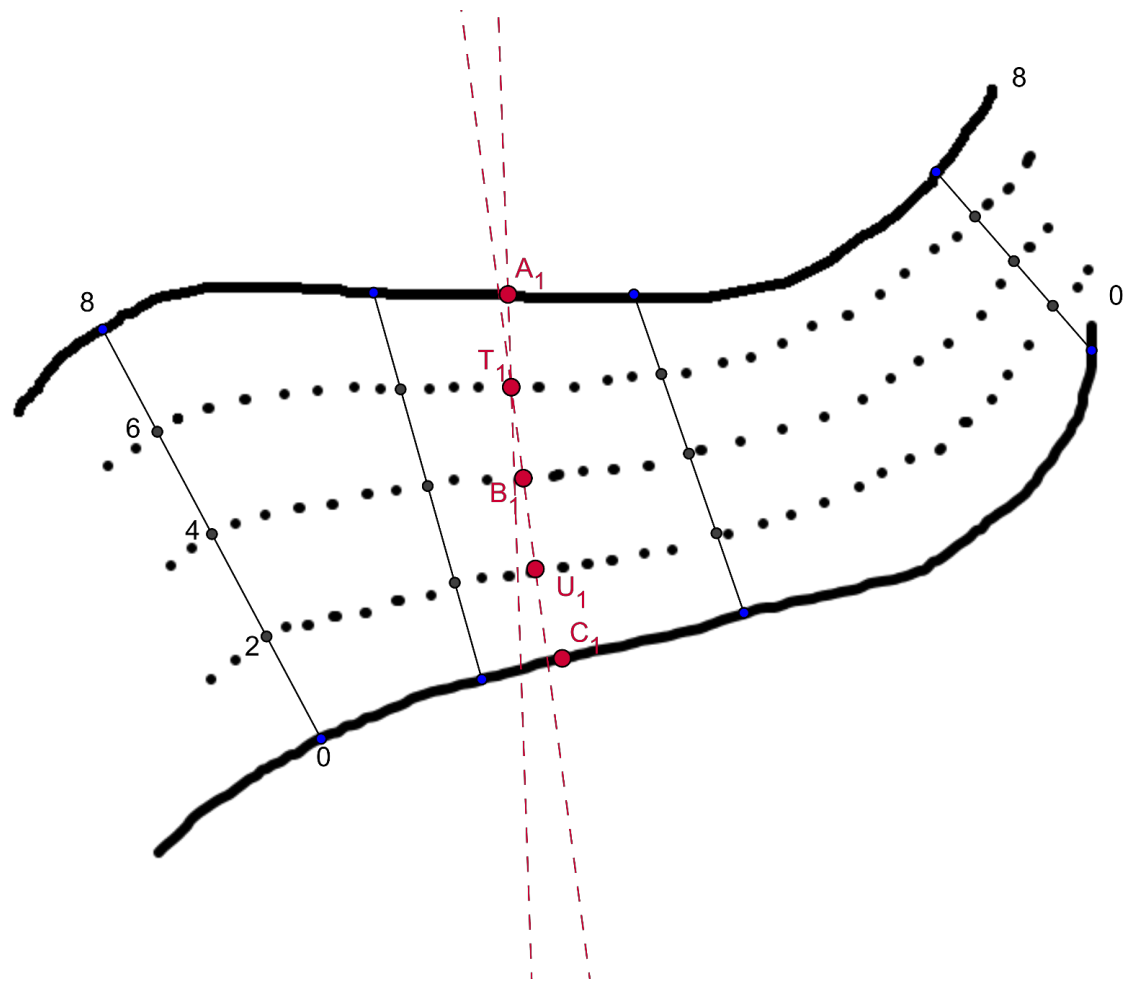
stejně
mezi $B_1 \rightarrow C_1$

průsečík U_1

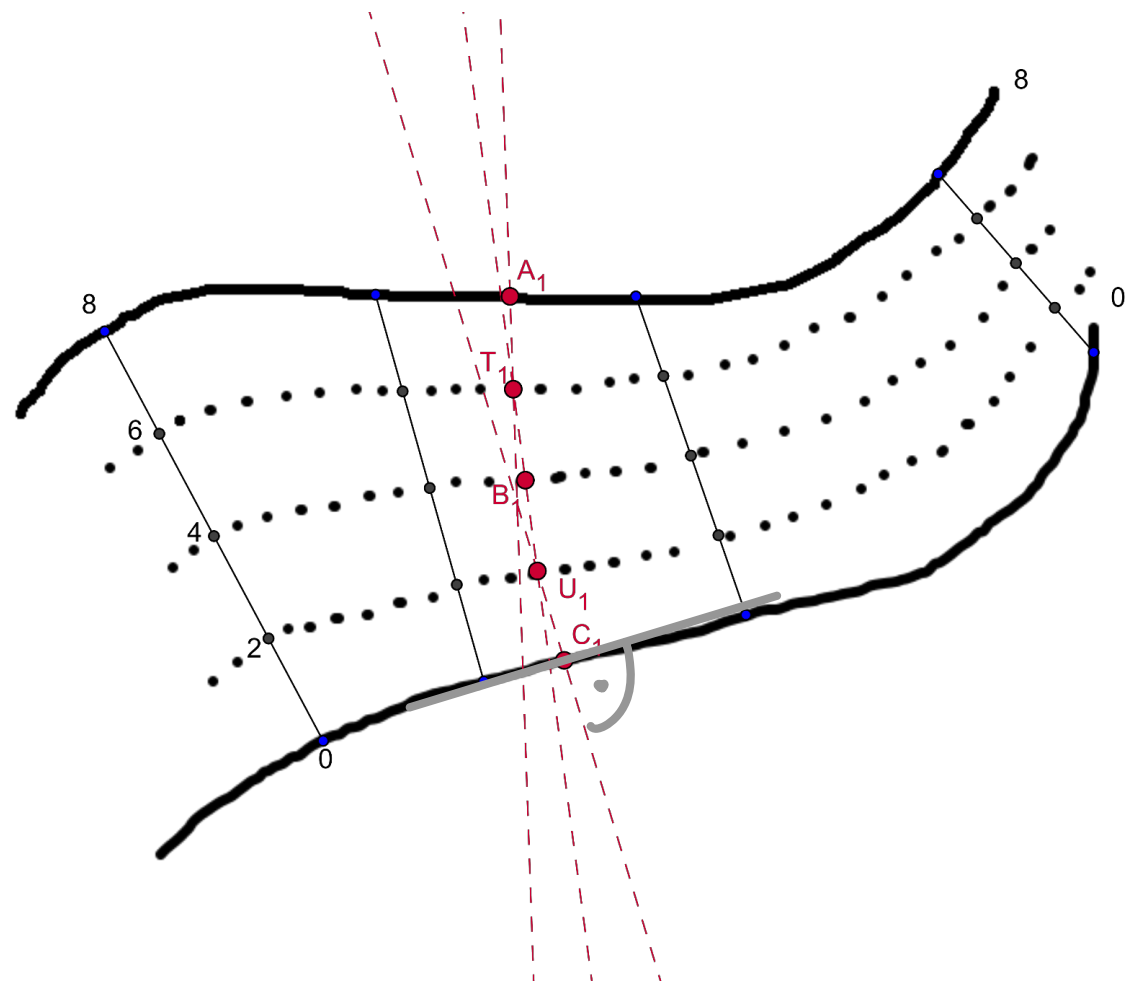
kolmice

a 2





kolmice
k 0
bodem U_1
 $\Rightarrow C_1$



krivka největšího spádu
prochází

$A_1 B_1 C_1$

