

ŘEŠENÍ' - 23.3. - 27.3.2020

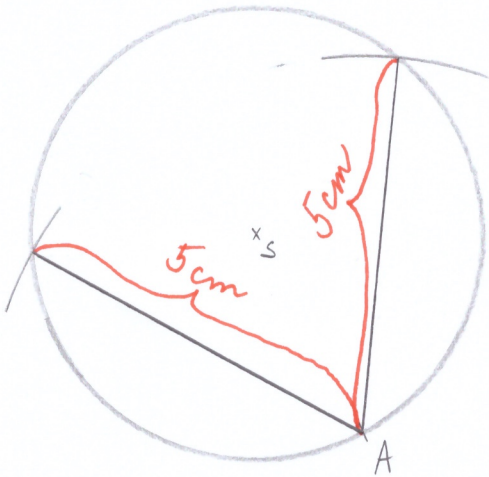
U 84/11

$k(S; 3\text{cm})$

$A \in k$

a) křivka 5 cm

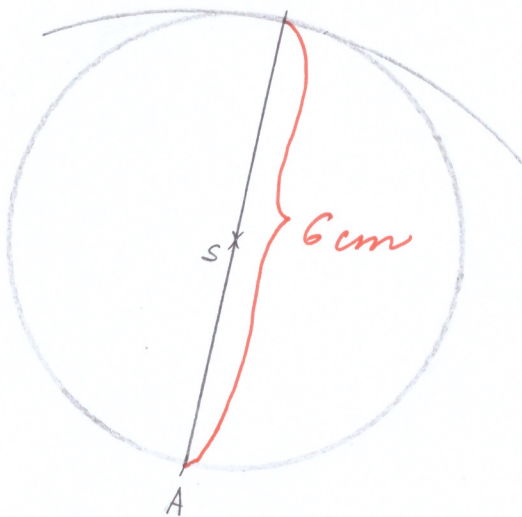
*křivka kružnice = úsečka spojující
libovolné dva body
kružnice*



*délku křivky nanesou
kružnicem z bodu A*

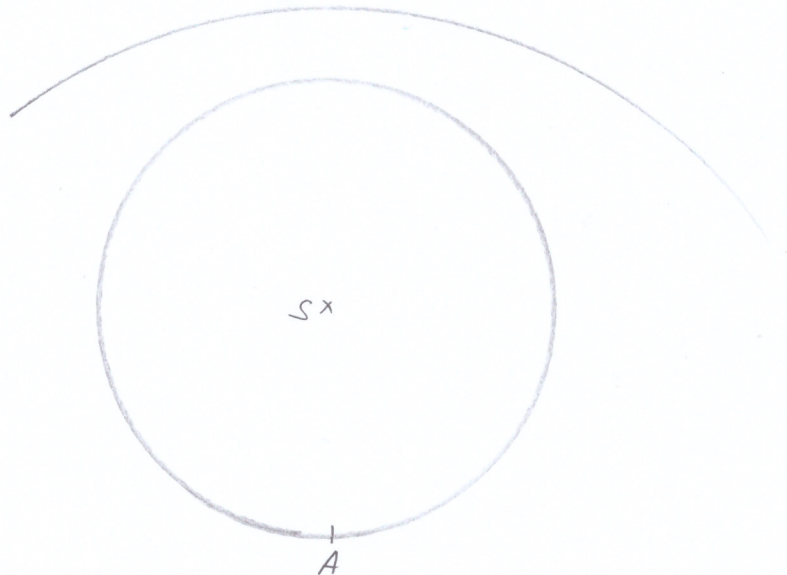
\Rightarrow Tato kružnice může
mít 2 křivky délky 5 cm
s krajním bodem A.

b) křivka 6 cm



\Rightarrow 1 křivka

c) křivka 7 cm



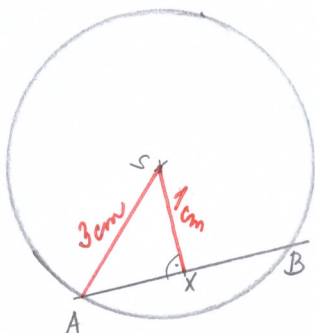
\Rightarrow 0 křivka

U 84/12

$k(S; 3\text{cm})$

$|SX| = 1\text{cm}$

$|AB| = ?$



$$|AS|^2 = |SX|^2 + \left(\frac{|AB|}{2}\right)^2$$

$$3^2 = 1^2 + \left(\frac{|AB|}{2}\right)^2$$

$$9 = 1 + \left(\frac{|AB|}{2}\right)^2 \quad | -1$$

$$8 = \left(\frac{|AB|}{2}\right)^2$$

$$\left(\frac{|AB|}{2}\right)^2 = 8$$

$$\frac{|AB|}{2} = \sqrt{8}$$

$$\frac{|AB|}{2} = 2,8 \quad | \cdot 2$$

$$\underline{|AB| = 5,6\text{cm}}$$

Délka křiny je 5,6 cm.

U 84/13

poloměr kruhu ... $r = 0,5\text{m} = 50\text{cm}$

šířka desky ... $s = 20\text{cm}$

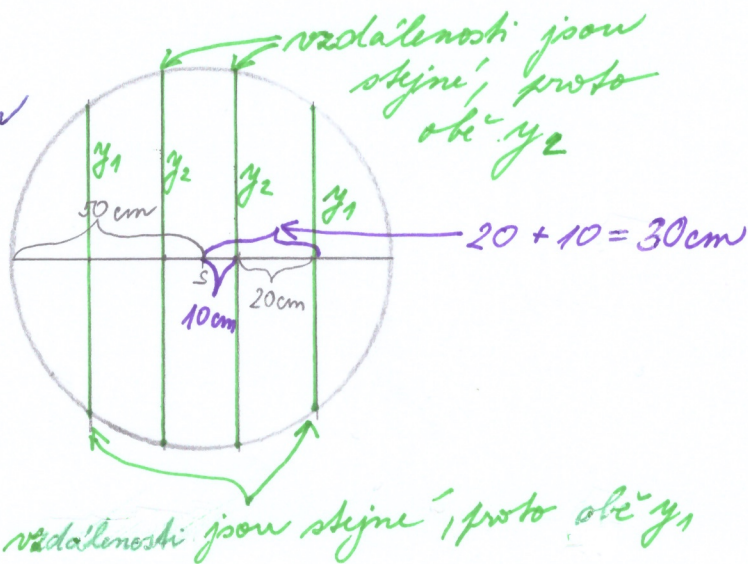
počet desek ... x

délka desky ... y

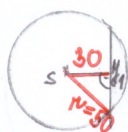
průměr $d = 2 \cdot r = 2 \cdot 50 = 100\text{cm}$

$$y = 100 : 20 \leftarrow \text{šířka desky}$$

$$\underline{y = 5 \text{ desek}}$$



Abych zjistila délku desky, potřebuji zjistit celkové rozměry vzdálenosti a náčrtku.



$$50^2 = 30^2 + \left(\frac{y_1}{2}\right)^2$$

$$2500 = 900 + \left(\frac{y_1}{2}\right)^2 \quad | -900$$

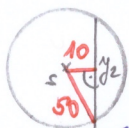
$$1600 = \left(\frac{y_1}{2}\right)^2$$

$$\left(\frac{y_1}{2}\right)^2 = 1600$$

$$\frac{y_1}{2} = \sqrt{1600}$$

$$\frac{y_1}{2} = 40 \quad | \cdot 2$$

$$\underline{y_1 = 80\text{cm}}$$



$$50^2 = 10^2 + \left(\frac{y_2}{2}\right)^2$$

$$2500 = 100 + \left(\frac{y_2}{2}\right)^2 \quad | -100$$

$$2400 = \left(\frac{y_2}{2}\right)^2$$

$$\left(\frac{y_2}{2}\right)^2 = 2400$$

$$\frac{y_2}{2} = \sqrt{2400}$$

$$\frac{y_2}{2} = 49 \quad | \cdot 2$$

$$\underline{y_2 = 98\text{cm}}$$

1. prkno ... 80cm

2. prkno ... 98cm

3. prkno ... 100cm

4. prkno ... 98cm

5. prkno ... 80cm

$$y = 80 + 98 + 100 + 98 + 80$$

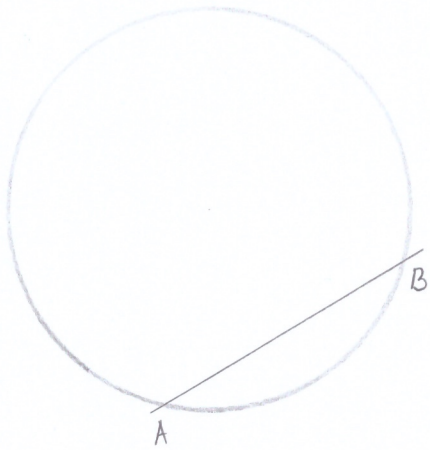
$$\underline{y = 456\text{cm}}$$

Kruh se skládá z 5 částí!
Deska byla dlouhá 456 cm.

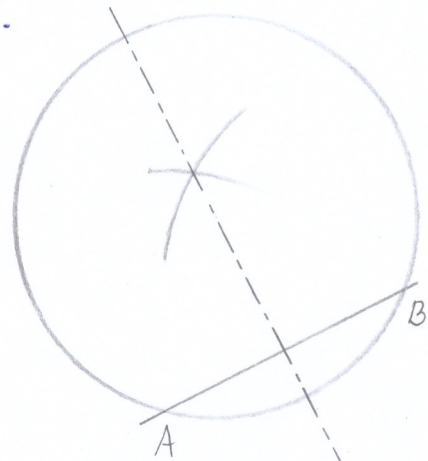
U84/14

3x stejný postup, pokračuje s jiným průměrem

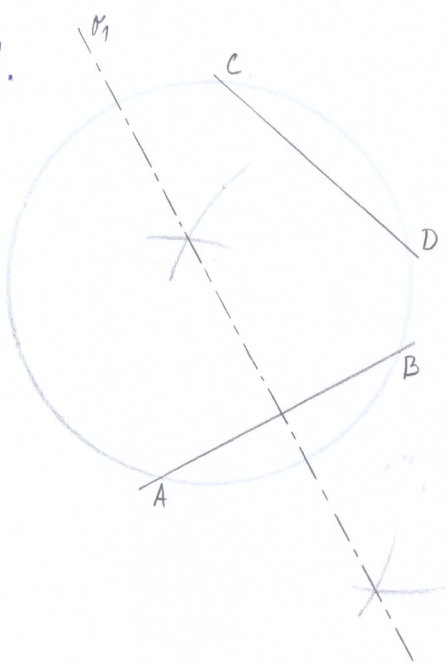
1.



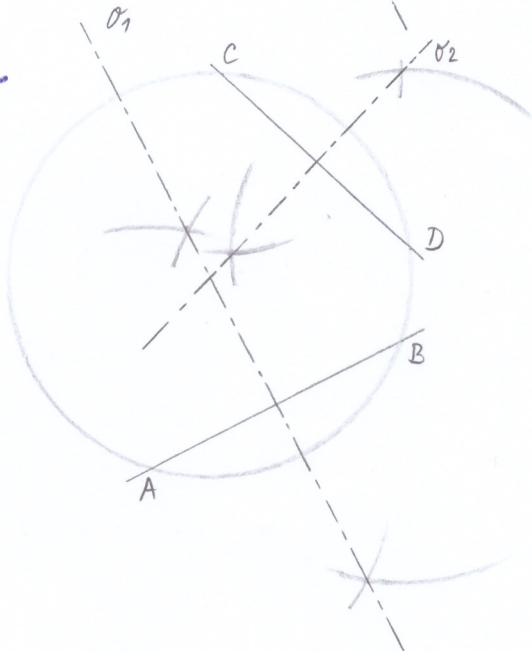
2.



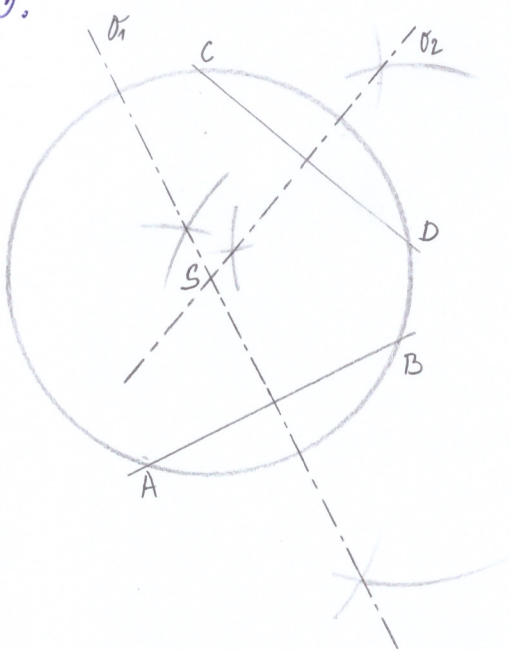
3.



4.



5.



Postup konstrukce:

1. obkreslím skleničku a narýsuji
křivou AB
2. osa křivky AB
3. narýsuji křivou CD
4. osa křivky CD
5. průsečík os je hledaný střed
kružnice

U 84/15

$$N = [3; 2]$$

$$P = [1; -3]$$

$$Q = [0; 2]$$

$$R = [-1; 0]$$

$$U = [1,7; -2,5]$$

$$V = [-2,7; -2,5]$$

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$$A = [2; 4]$$

$$a \Leftrightarrow AB$$

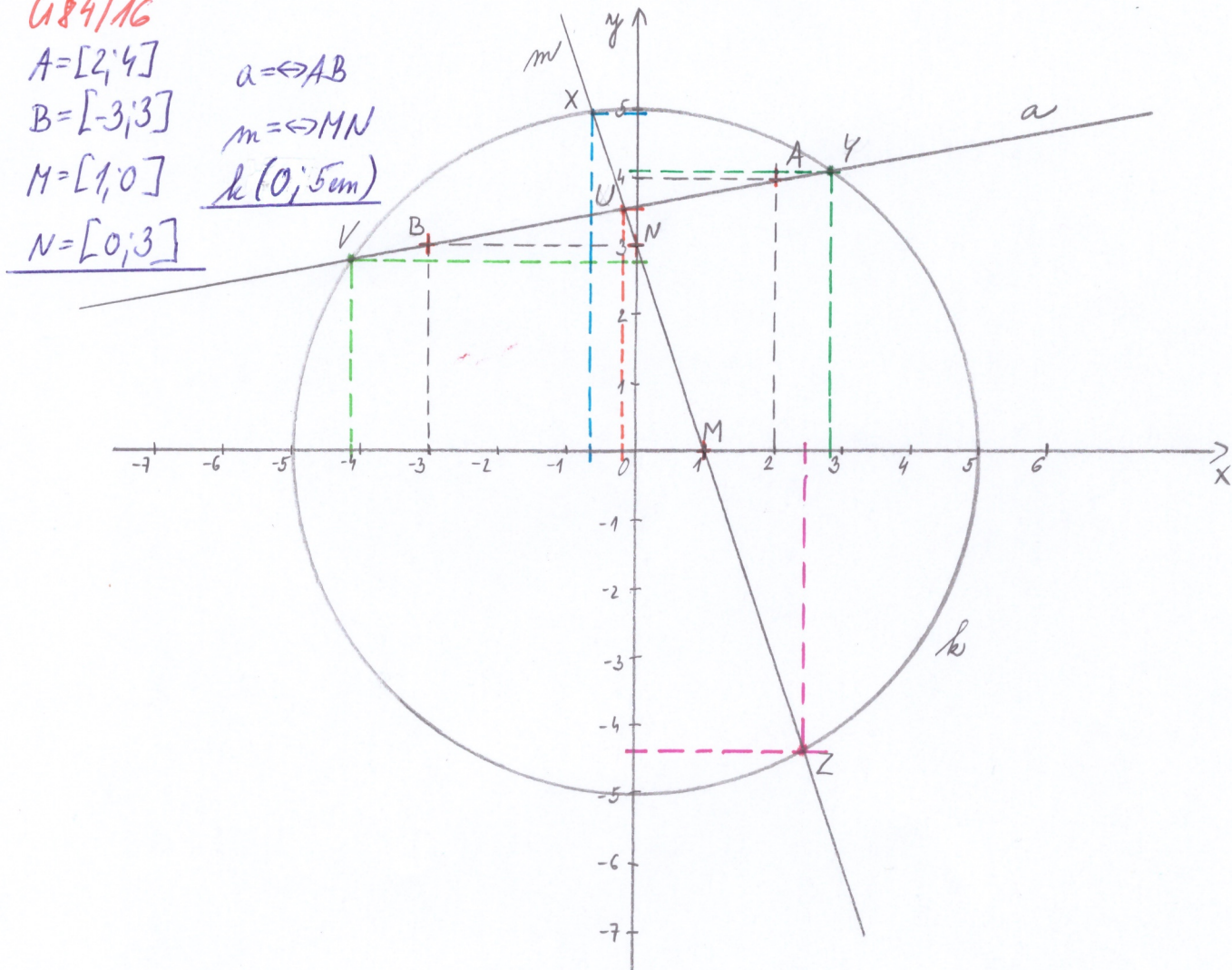
$$B = [-3; 3]$$

$$m \Leftrightarrow MN$$

$$M = [1; 0]$$

$$k(0; 5cm)$$

$$N = [0; 3]$$



a) $V \in a \cap m$
 $U = [-0,2; 3,5]$

b) $V \in k \cap a$
 $X \in k \cap m$
 $Y \in k \cap a$
 $Z \in k \cap m$

$$V = [-4,2; 2,8]$$

$$X = [0,7; 4,9]$$

$$Y = [2,8; 4,1]$$

$$Z = [2,5; -4,4]$$

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A - a, c
B - c

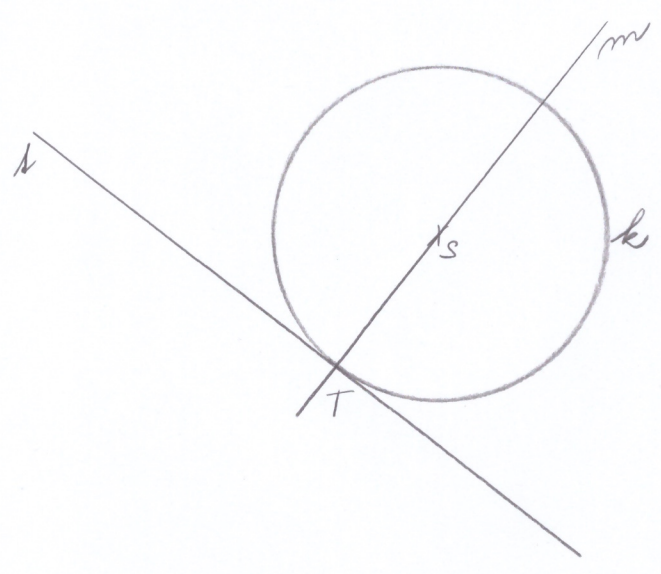
C - b
D - b

E - a, c
F - a

G - a, b, c

PS 58/2

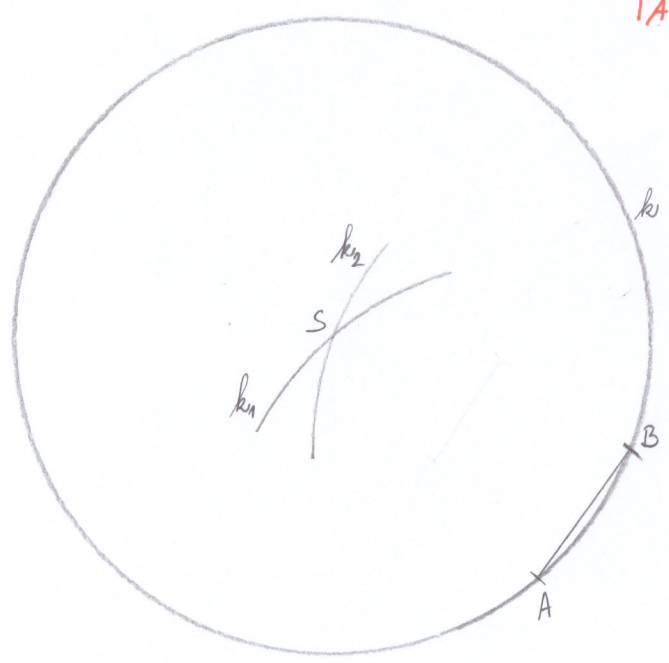
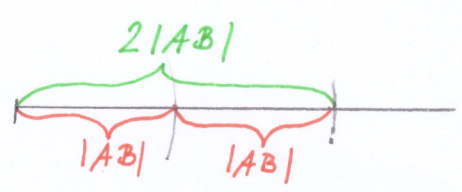
a)



Postup konstrukce:

1. $m; m \perp AS \cap Se, m$
2. $T; T \in m \cap k$
3. $k; k(S; |ST|)$

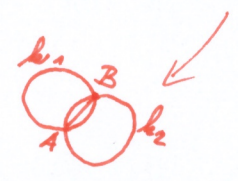
b)



Postup konstrukce:

1. $k_1; k_1(A; 2|AB|)$
2. $k_2; k_2(B; 2|AB|)$
3. $S; S \in k_1 \cap k_2$
4. $k; k(S; 2|AB|)$

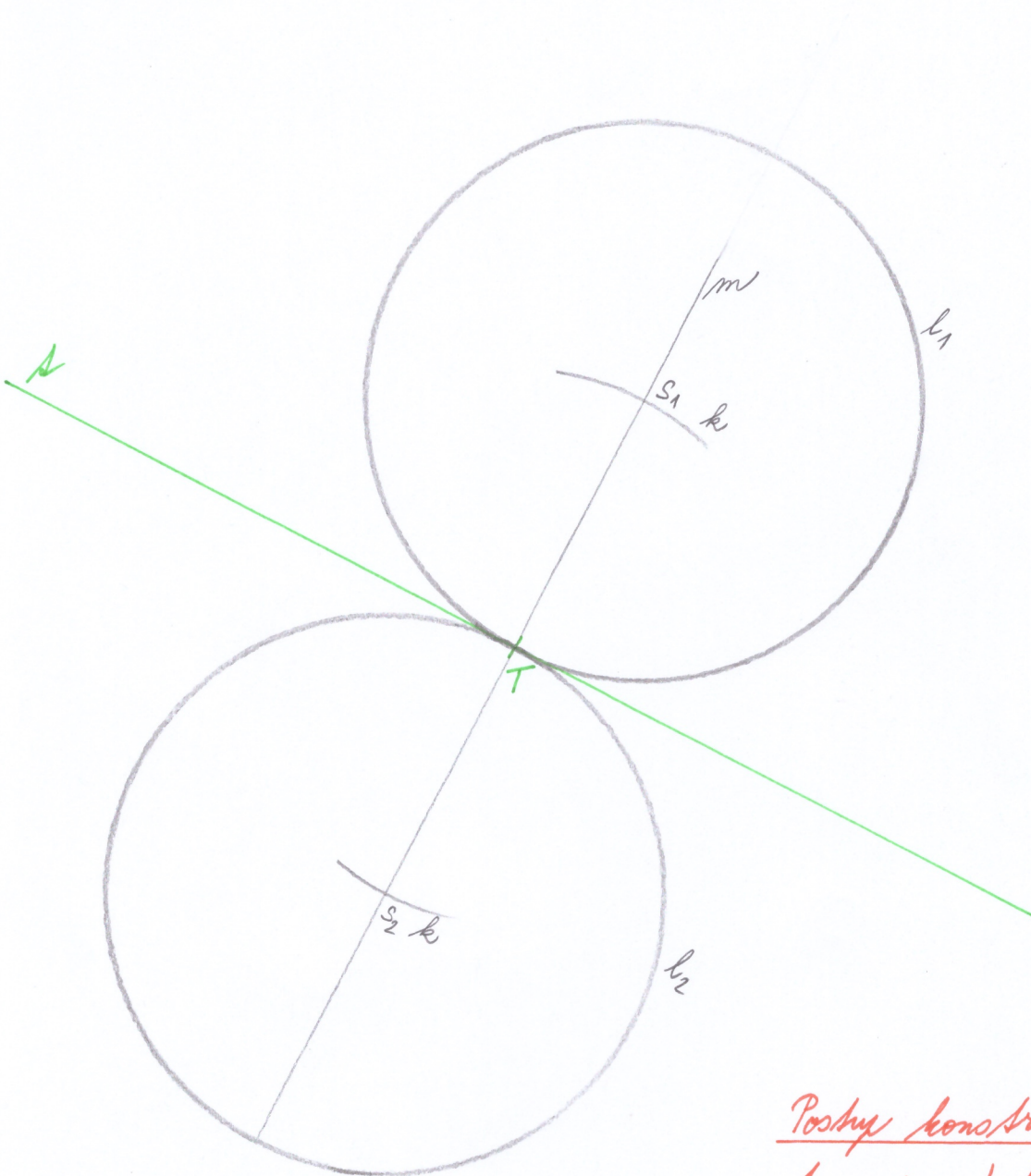
Úloha má 2 řešení



PS 59/3a

Želene je naryšované "radarmi".

$$k(S; 4\text{cm}) \quad d=8\text{cm} \Rightarrow r = \frac{d}{2} = \frac{8}{2} = 4\text{cm}$$

Postup konstrukce:

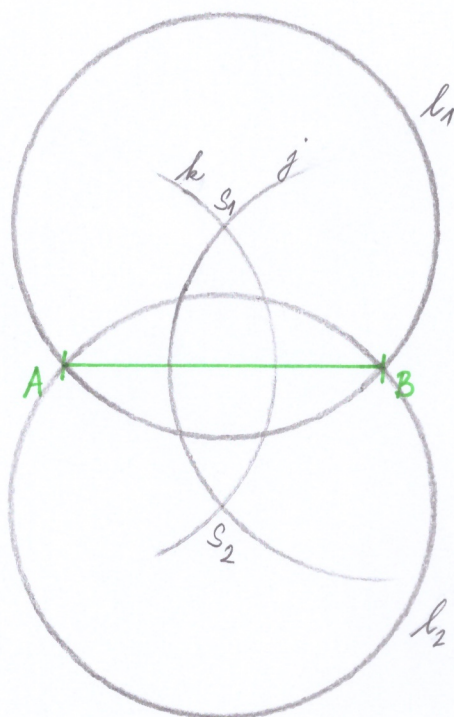
1. $m \perp n \wedge T \in m$
2. $k_i k(T; 4\text{cm})$
3. $S_1, S_2; S_1 \in m \cap k$
 $S_2 \in m \cap k$
4. $k_1, k_2; k_1(S_1; 4\text{cm})$
 $k_2(S_2; 4\text{cm})$

Úloha má 2 řešení!

PS59/3A

 $l(S; 2,8 \text{ cm})$

Čelene je naryšované 'radámi'.



Postup konstrukce:

1. $AB; |AB| = 4,2 \text{ cm}$
"radámi"
2. $k, j (A; 2,8 \text{ cm})$
3. $j, j (B; 2,8 \text{ cm})$
4. $S_1, S_2; S_1 \in k \cap j$
 $S_2 \in k \cap j$
5. $l_1, l_2; l_1 (S_1; 2,8 \text{ cm})$
 $l_2 (S_2; 2,8 \text{ cm})$

PS 59/4

$$T_1 = [1; -1]$$

$$T_2 = [1; 3]$$

$$T_3 = [3; 1]$$

$$T_4 = [-1; 1]$$

$$P_1 = [2,4; -0,4]$$

$$P_2 = [-0,4; 2,4]$$

$$Q_1 = [2,4; 2,4]$$

$$Q_2 = [-0,4; -0,4]$$