PO13 Okol o. 1/1

1) $a = 10\,dm$, $b = 11{,}6\,dm$, $c = 14{,}4\,dm$

$S = \sqrt{18(18-10)(18-11{,}6)(18-14{,}4)^2}$ $\boxed{p} = 36\,dm \rightarrow p = 18\,dm$ 1

$\boxed{S} = \sqrt{18 \cdot 8 \cdot 6{,}6 \cdot 3{,}6} = \sqrt{3317{,}76} = 57{,}6\,dm^2$ 1

$S = \frac{b \cdot v_b}{2}$

$\boxed{v_b} = \frac{2S}{b} = \frac{2 \cdot 57{,}6}{11{,}6} = 9{,}93\,dm$ 1

$\boxed{r} = \frac{a \cdot b \cdot c}{4S} = \frac{10 \cdot 11{,}6 \cdot 14{,}4}{4 \cdot 57{,}6} = 7{,}25\,dm$ 1

$\boxed{\rho} = \frac{S}{p} = \frac{57{,}6}{18} = 3{,}2\,dm$ 1

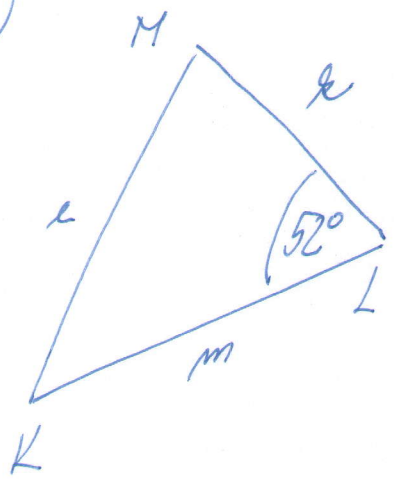
$S = \frac{1}{2} ac \sin\beta$

$\sin\beta = \frac{2S}{a \cdot c} = \frac{2 \cdot 57{,}6}{10 \cdot 14{,}4} = 0{,}8$

$\boxed{\beta} = 53°\,8'$ 1 (6)

17 - 16	1
15 - 13	2
12 - 8	3
7 - 4	4
3 - 0	5

(2.)



$l^2 = k^2 + m^2 - 2km\cos 52°$

$l^2 = 95^2 + 32^2 - 2 \cdot 95 \cdot 32 \cos 52°$

$l^2 = 6305,78$

$l = 79,4$ cm 1

$s = \frac{95 + 32 + 79,4}{2} = 103,2$ cm 1

$S = \frac{1}{2} km \sin 52° = \frac{1}{2} \cdot 95 \cdot 32 \cdot \sin 52° = 1197,48$ cm^2 1

$r_m = \frac{2S}{m} = \frac{2 \cdot 1197,48}{32} = 74,86$ cm 1

$r = \frac{am \cdot l \cdot k}{4S} = \frac{32 \cdot 79,4 \cdot 95}{4 \cdot 1197,48} = 50,40$ cm 1

$\rho = \frac{S}{s} = \frac{1197,48}{103,2} = 11,6$ cm 1

(2a) $S = \frac{k \cdot r_k}{2}$

$r_k = \frac{2S}{k} = \frac{2 \cdot 74,8}{11,6} = 9,3$ cm 1

(7.)

PO13 ÚKOL č. 1/4

3)

$o = 147\,cm$

$k = 45\,cm$, $r = 38\,cm$

$o = k + o + r$

$147 = o + 45 + 38 \rightarrow$ strana $\boxed{o = 64\,cm}$ 1

$s = \frac{147}{2} = 73{,}5\,cm$

$S = \frac{o \cdot r_0}{2}$

$840{,}5 = \frac{64 \cdot r_0}{2}$

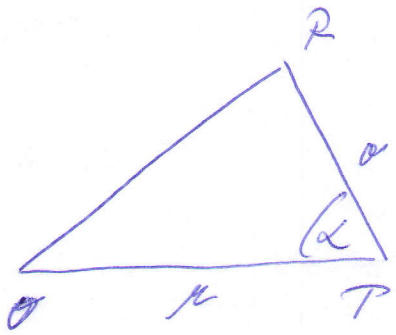
$r_0 = \frac{840{,}5 \cdot 2}{64}$

$r_0 = 26{,}27$ 1

$S = \sqrt{73{,}5(73{,}5-45)\cdot(73{,}5-64)(73{,}5-38)}$

$S = \sqrt{73{,}5 \cdot 28{,}5 \cdot 9{,}5 \cdot 35{,}5}$

$S = 840{,}5\,cm^2$ 1



$S = \frac{1}{2} o r \sin\alpha$

$\sin\alpha = \frac{2S}{or}$

$\sin\alpha = \frac{2 \cdot 840{,}5}{64 \cdot 38} = 0{,}6912$

$\alpha = 43°44'$ 1

41