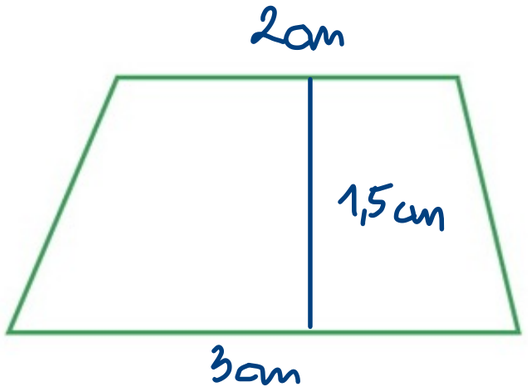
1. W poniższych trapezach zmierz długości podstaw, a następnie dorysuj i zmierz wysokości. Oblicz pola trapezów.

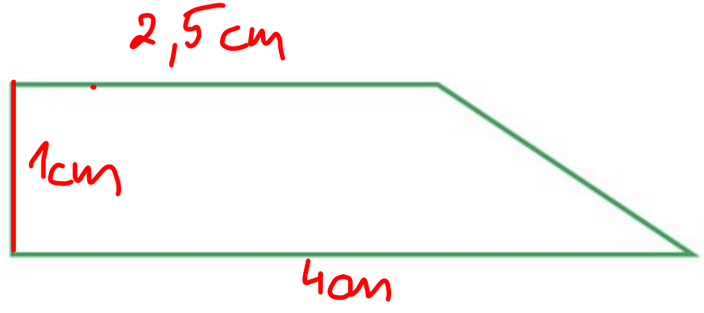


$P = \frac{1}{2} \cdot 1{,}5 \cdot (2+3) =$

$= \frac{1}{2} \cdot 1\frac{1}{2} \cdot 5 =$

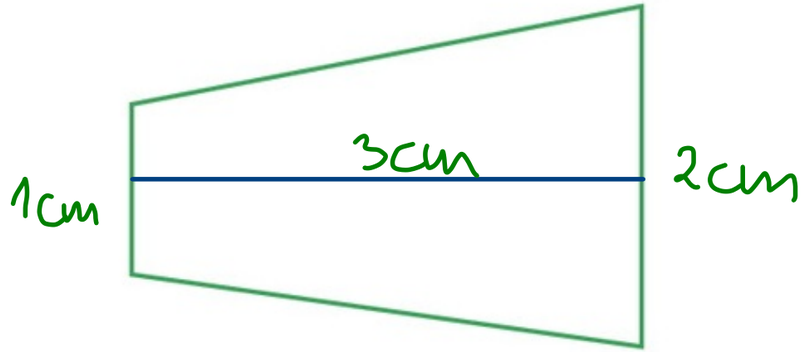
$= \frac{1}{2} \cdot \frac{3}{2} \cdot 5 = \frac{15}{4} = 3\frac{3}{4} =$

$= 3{,}75\,cm^2$



$P = \frac{1}{2} \cdot 1 \cdot (4+2{,}5) =$

$= \frac{1}{2} \cdot 6{,}5 = 3{,}25\,cm^2$

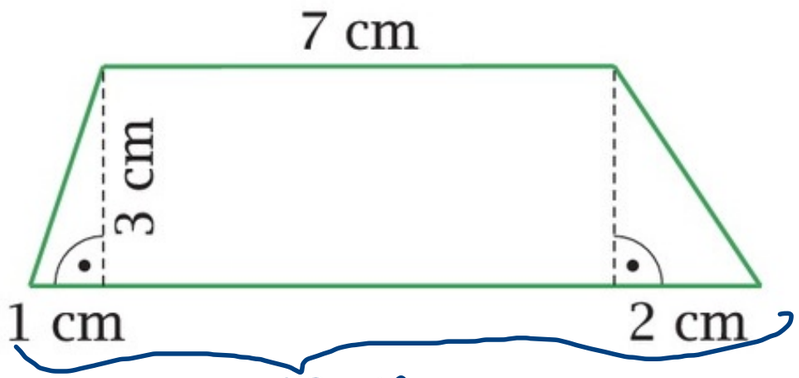


$P = \frac{1}{2} \cdot 3 \cdot (1+2) =$

$= \frac{1}{2} \cdot 3 \cdot 3 = \frac{1}{2} \cdot 9 =$

$= 4{,}5\,cm^2$

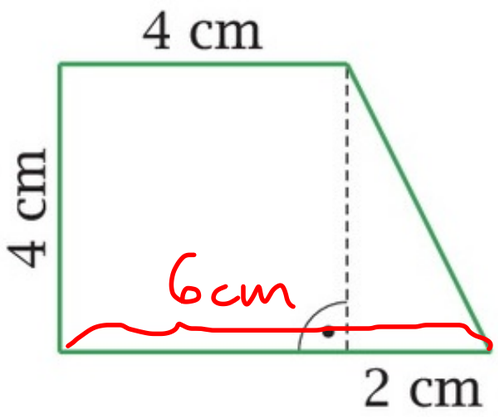
2. Oblicz pola poniższych trapezów.



$P = \frac{1}{2} \cdot 3 \cdot (10+7) =$

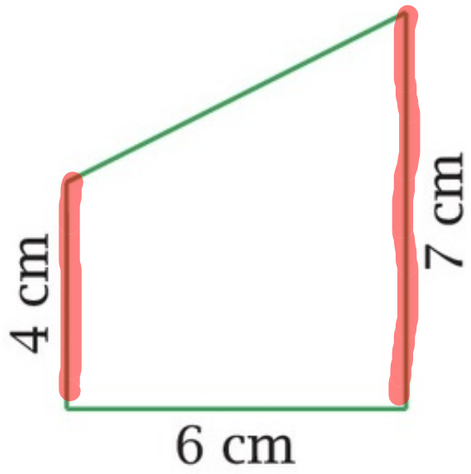
$= \frac{1}{2} \cdot 3 \cdot 17 =$

$= \frac{1}{2} \cdot 51 =$ $25{,}5\,cm^2$



$P = \frac{1}{2} \cdot 4^{2} \cdot (6+4) =$

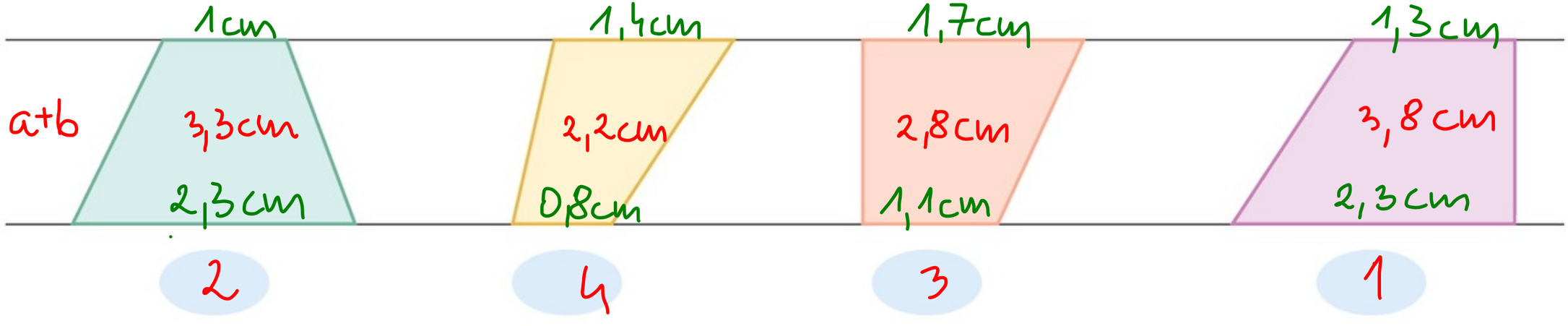
$= 2 \cdot 10 =$ $20\,cm^2$



$P = \frac{1}{2} \cdot 6^{3} \cdot (4+7) =$

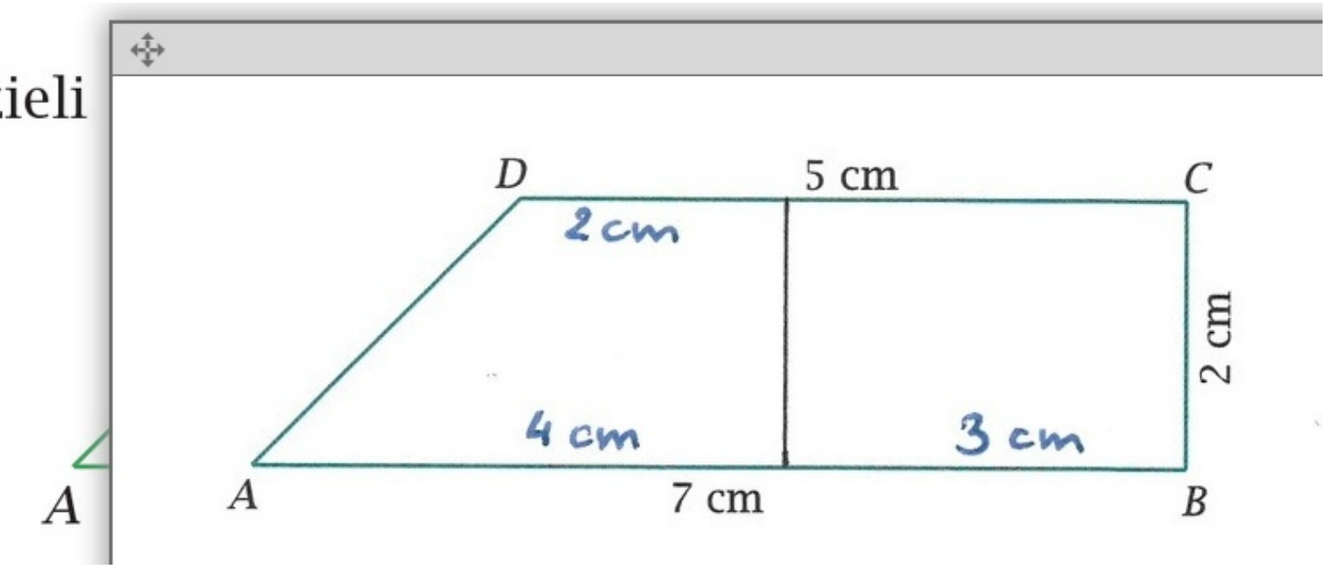
$= 3 \cdot 11 =$ $33\,cm^2$

3. Ponumeruj trapezy w kolejności od trapezu o największym polu do trapezu o najmniejszym polu.

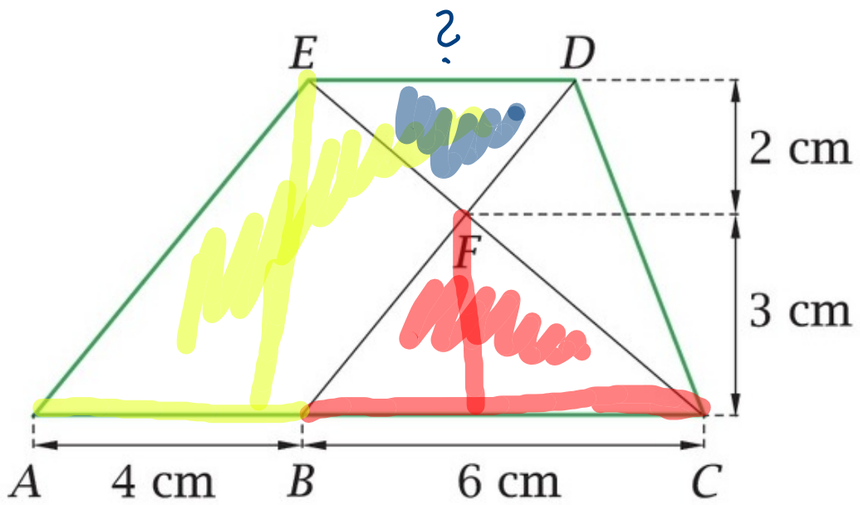


Wysokości są wszędzie takie same!
Wystarczy sprawdzić sumy podstaw
↳ wpiszemy je w środek na czerwono.

4. Narysuj prostą, która podzieli trapez prostokątny $ABCD$ na prostokąt i trapez o jednakowych polach.



5. Uzupełnij tabelkę.



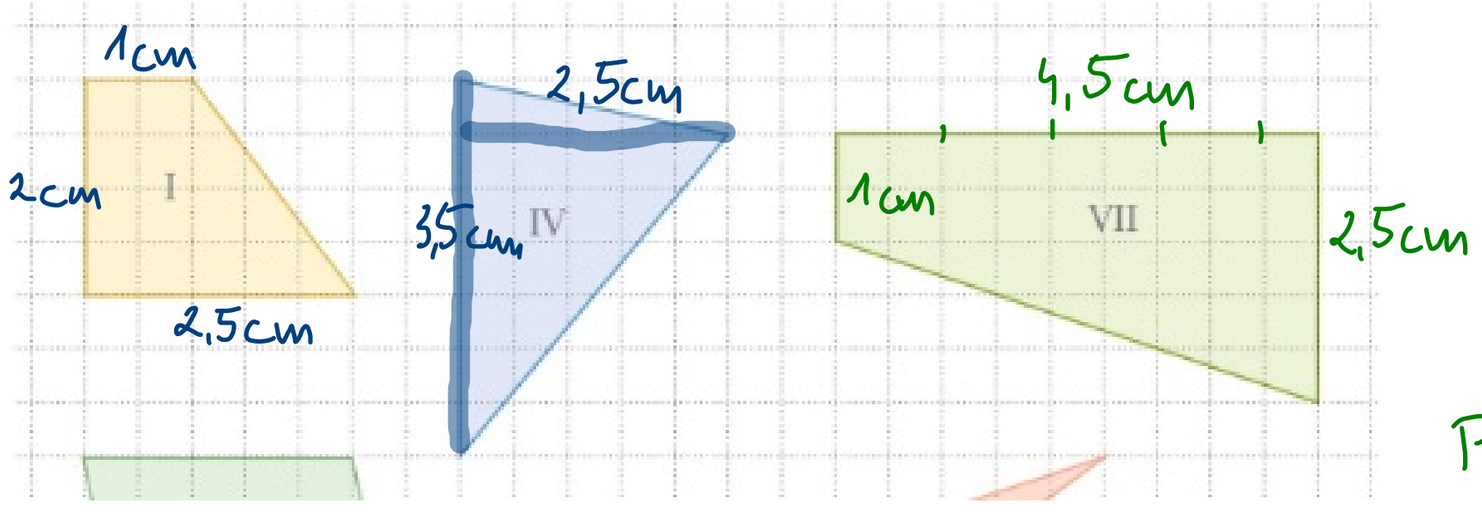
Wielokąt	Pole wielokąta
trójkąt BCF	$\frac{1}{2} \cdot 6^{3} \cdot 3 = 9\ cm^2$
równoległobok $ABDE$	$4 \cdot 5 = 20\ cm^2$
trapez $ACDE$ → równoległ. $ABDE$	$+ \triangle BCD \rightarrow 20 + 15 = 35\ cm^2$
trójkąt EFD → trapez $ACDE$	$- \triangle ACE - \triangle DFC \rightarrow 35 - 25 - 6 = 4\ cm^2$
trapez $ABFE$ → równoległobok $ABDE$	$- \triangle EFD \rightarrow 20 - 4 = 16\ cm^2$

trójkąt $BCD \rightarrow \frac{1}{2} \cdot 6^{3} \cdot 5 = 15\ cm^2$

trójkąt $DFC \rightarrow 15 - 9 = 6\ cm^2$

trójkąt $ACE \rightarrow \frac{1}{2} \cdot 10^{5} \cdot 5 = 25\ cm^2$

6. Bok kratki ma długość 5 mm. Oblicz pola narysowanych wielokątów.



$P_I = \frac{1}{2} \cdot 2 \cdot (1+2{,}5) =$

$= 3{,}5\,cm^2 = 350\,mm^2$

$P_{IV} = \frac{1}{2} \cdot 2{,}5 \cdot 3{,}5 =$

$= \frac{1}{2} \cdot 2\frac{1}{2} \cdot 3\frac{1}{2} =$

$= \frac{1}{2} \cdot \frac{5}{2} \cdot \frac{7}{2} = \frac{35}{8} =$

$= 4\frac{3}{8} = 4{,}375\,cm^2 = 437{,}5\,cm^2$

$P_{VII} = \frac{1}{2} \cdot 4{,}5 \cdot (1+2{,}5) =$

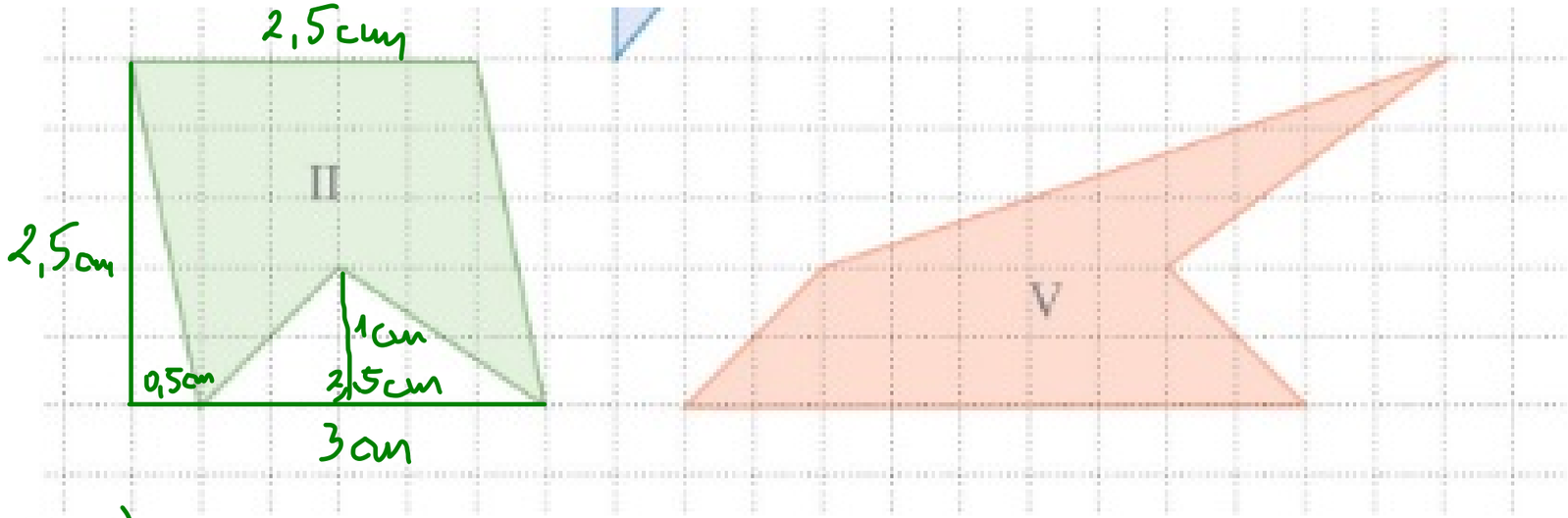
$= \frac{1}{2} \cdot 4\frac{1}{2} \cdot 3\frac{1}{2} =$

$= \frac{1}{2} \cdot \frac{9}{2} \cdot \frac{7}{2} =$

$= \frac{63}{8} = 7\frac{7}{8} =$

$= 7{,}875\,cm^2 =$

$= 787{,}5\,mm^2$



$P_{\square} = \frac{1}{2} \cdot 2{,}5 \cdot (2{,}5+3) =$

$= \frac{1}{2} \cdot \frac{5}{2} \cdot 5{,}5 =$

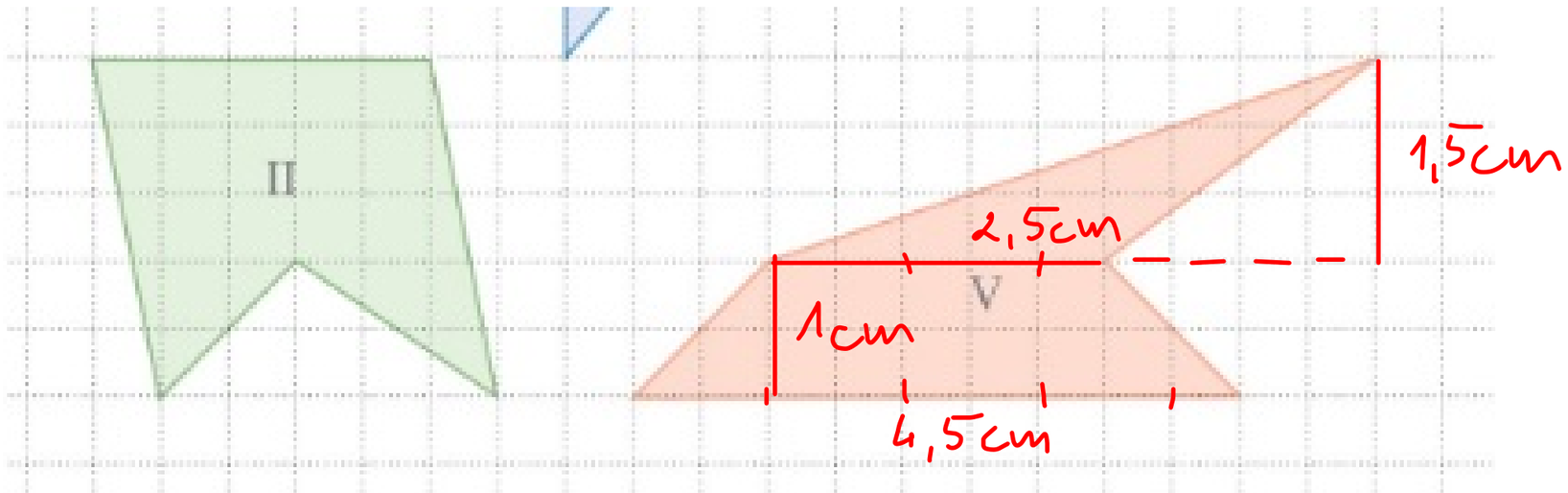
$= \frac{1}{2} \cdot \frac{5}{2} \cdot \frac{11}{2} = \frac{55}{8} = 6\frac{7}{8} = 6{,}875\,cm^2$

$P_{\triangle} = \frac{1}{2} \cdot 0{,}5 \cdot 2{,}5 = \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{5}{2} = \frac{5}{8} = 0{,}625\,cm^2$

$P_{\triangle} = \frac{1}{2} \cdot 1 \cdot 2{,}5 = \frac{1}{2} \cdot \frac{5}{2} = \frac{5}{4} = 1{,}25\,cm^2$

$P_{II} = 6{,}875 - (0{,}625 + 1{,}250) =$

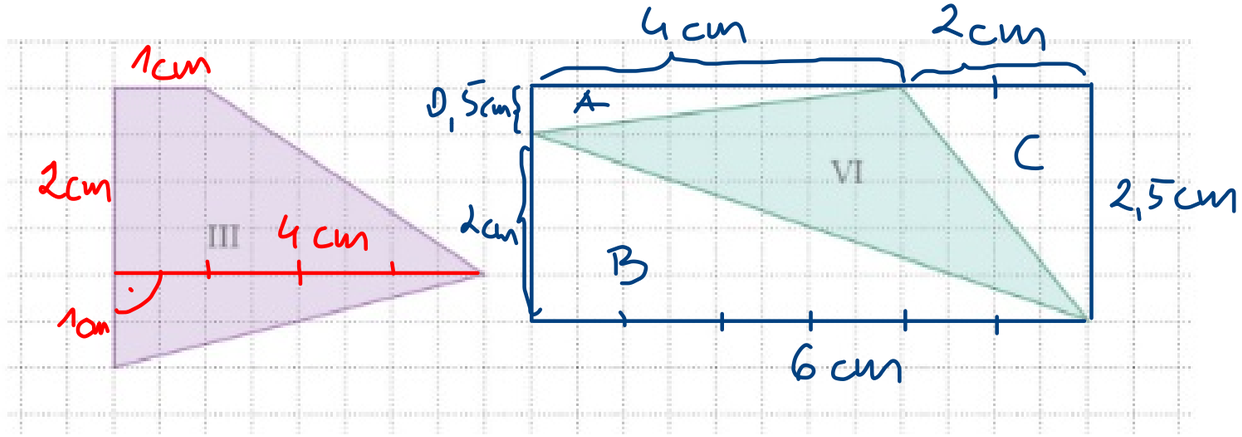
$= 6{,}875 - 1{,}875 = 5\,cm^2 = 500\,mm^2$



$P_{\square} = \frac{1}{2} \cdot 2{,}5 \cdot 1{,}5 = \frac{1}{2} \cdot \frac{5}{2} \cdot \frac{3}{2} = \frac{15}{8} = 1\frac{7}{8} = 1{,}875\,cm^2$

$P_{\square} = \frac{1}{2} \cdot 1 \cdot (4{,}5 + 2{,}5) = \frac{1}{2} \cdot 7 = \frac{7}{2} = 3{,}5\,cm^2$

$P_V = 1{,}875 + 3{,}500 = 5{,}375\,cm^2 = 537{,}5\,mm^2$



$P_{\square} = \frac{1}{2} \cdot 2 \cdot (1+4) = 5\,cm^2$

$P_{\triangleright} = \frac{1}{2} \cdot 1 \cdot 4 = 2\,cm^2$

$P_{III} = 5+2 = 7\,cm^2 = 700\,cm^2$

$P_A = \frac{1}{2} \cdot 0{,}5 \cdot 4 = 1\,cm^2$

$P_B = \frac{1}{2} \cdot 2 \cdot 6 = 6\,cm^2$

$P_C = \frac{1}{2} \cdot 2 \cdot 2{,}5 = 2{,}5\,cm^2$

$1+6+2{,}5 = 9{,}5\,cm^2$

$P_{\square} = 6 \cdot 2{,}5 = 15{,}0 = 15\,cm^2$

$P_{VI} = 15 - 9{,}5 = 5{,}5\,cm^2 = 550\,mm^2$

Wielokąt	I	II	III	IV	V	VI	VII
Pole [mm^2]	350	500	700	437,5	537,5	550	787,5