ЈȢБЈɅũȺŁB Ƕȷ ŀɊȺĿ Ɇ Ⱦȷ ĿȢБȿɇŁɆȥ ВЈ
ɊŁȺЈŪЈʔɆȼ ȷ ʔÝɇȺɅȼɆȾȷ Łȷ ʔÝɇȷ ɇȼɆ ȺȾȢȷ ŀɊȺЈɆȼɆ
ЈȢȼɅȺɆŁ ȺɁȺɇȷ ɆȺÝʔ

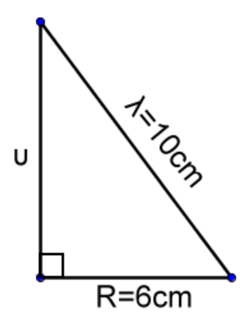
Ƕȷ ũȾЈȢɅŁȺɆ ȺɁȺɇȷ ɆȺŁɆ 2011

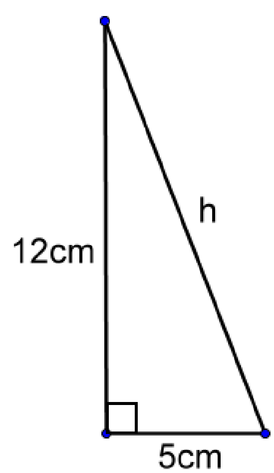
ȥɎɗɖɛŬ: ȥȷ Ūȼȥȷ ɇŁȾȷ ȢɅȷ ȾɇŁȾȼɆȾȷ ɇȺЈŪЈʔɆȼɆ
2-ɋɅВ ɇȺȷ ʔŁȾɋʔ Ɇȷ ВȿɋʔȽ

ȼɛŮȷ ɞɛɖɜɑŬ əŬəɩ ȷ Ŭ Ůɞɏ ŰŬůɖɠ: ɊŮɠŰȷ Ŭ, 23 ȥ Ŭɐɠ 2011
11:00 ï 14:00

ȿЈɆȺŁɆ

ȥ ȺɅВɆ ȷ Ǡ

1.	ʔŬ ɓȷ ŮŰŬŰɑɳ ɧɔəɞ ɞȷ ɖɞɔɤɔɞɠ ΄ Ŭȷ Ŭəəɖəɸ ɘ ɏŭɞɠ ɛŮŭɛŬŮŰɤŮŬɠ 4cm, 5cm əŬə 6cm. **ȿɨ ůɖ:** $V = Ŭ \cdot ɓ \cdot ɔ = 4 \cdot 5 \cdot 6 = 120\ cm^3$	
2.	Вəəȷ ŬŰɐŮŬɠ ůŮɏɜŬ ΄ Ŭȷ Ŭəəɚ ɜŮɞɞŭɞɞŮɞ Űɞɠɠ ŰŮəŮɠŰŰɞɠɠ ɏɜəɛɐɜŮɐŰɳ: | 280 | 240 | 320 | 300 | 250 | 350 | ʔŬ ɠ΄ ɞəɞɔůŮŰŰŬŰɖ ɛɏůɖ Űɞɐ Űɤ ɜ ɛɖɜəŬɤ ɜ əȷ ŬŰɐŮŬɤ ɜ. **ȿɨ ůɖ:** $\bar{ɠ} = \frac{280+240+320+300+250+350}{6} = \frac{1740}{6} = 290$ əȷ ŬŰɐŮŬɠ Űɞɜ ɛɐɜŬ	
3.	Ⱦɩ ɜɞɠɏɞŮəŬəŰɞŬ ɓɎůɖɠ 6cm əŬəɐ ɓŬŭɧɜ əɠȷ Űɐɠ Ů ɘŰɎɜŮɐɠ 60΄ cm^2. ʔŬ ɓȷ ŮŰŬŰɑɳ ɧɔəɞ Űɞɠ. **ȿɨ ůɖ:** $Ⱥ_ə = ΄ Rə \Rightarrow 60΄ = 6΄ ə \Rightarrow ə = 10\,cm$ $ɠ^2 + 6^2 = 10^2 \Rightarrow ɠ^2 + 36 = 100$ $ɠ^2 = 64 \Rightarrow ɠ = 8\,cm$  $V = \frac{΄ R^2 ɠ}{3} = \frac{΄ 6^2 \cdot 8}{3} = 96΄\ cm^3$	

4.	Ɇ Űȕ ŭɗ əŬȝɧ əgəəȘɧ ŭȢɔɟ Ŭɛɛ Ŭ űŬȢȝȝŰŰə ȝə ´ ɟȝȝɟ ȘɛȝɑŰɤȝ ´ ŰȾůŮɤȝ ´ ȝg ŬȝŬɢ ɟ ɖůŬȝ Ŭ´ ɧ Űȕ ŭȘůȝɏɠ ŬŮɟ ȝŭɟ ɧɛȘ ȿȢɟȝŬəŬɠ Űȝ ŰȾŮgŰȢ ɛɐȝŬ. Ŭ) ʔŬ g´ ȝəȝȝɑŮŰŰ Űȕ ´ ȝůȝůŰɧ Űɤȝ ´ ŰȾůŮɤȝ ´ ȝg ŬȝŬɢ ɟ ɖůŬȝ ɔəŬ Űȕ ȿȝȝŭȢȝ. ɓ) ʔŬ ɓɟŮŰŰ ´ ȝɧɠ ɐŰȝ ȝ ŭɖɛȝűȘɏůŰŰɟ ȝɠ ´ ɟȝȝɟ Șɛɧɠ Űȝȝ ŰȾŮgŰȢ ɛɐȝŬ.  **ȿɨ ůɖ:** α) $100-\left(44+14+17\right)=100-75=25\%$ β) Ƀ ŭɖɛȝűȘɏůŰŰɟ ȝɠ ´ ɟȝȝɟ Șɛɧɠ ŮȝŬəɖ ɟ ɗɐȝŬ.	
5.	ʔŬ ɓɟŮŰŰ Űȕ Ůɛ ɓŬŭɧȝ Űɖɠ əgɟŰȾɠ Ů ȘŰȢȝŮȘŬɠ əgəȝŭɟ ȝg ´ ȝg ɏɢŮəŬəŰȝŬ ɓȢůɖɠ 3cm əŬəɨ ɣ ȝɠ 7cm. **ȿɨ ůɖ:** $A_{ə}=2´\ Rg\Rightarrow A_{ə}=2´\ \cdot 3\cdot 7\Rightarrow A_{ə}=42´\ cm^2$	
6.	ȜŬȝȝȘɐ ŰŰŰɟ Ŭɓɤȝ Șɐ ´ gɟ ŬɛɑŬ ɏɢŮəɨ ɣ ȝɠ 12cm əŬəŮɛ ɓŬŭɧȝ ɓȢůɖɠ 100cm². ʔŬ g´ ȝəȝȝɑŮŰŰ α) Űȕ ´ ŬɟȢ´ əŮgɟ ȝ ɨ ɣ ȝɠ Űɖɠ, əŬə β) Űȕ Ůɛ ɓŬŭɧȝ ȝəȘɐɠ Ů ȘŰȢȝŮȘŬɠ. **ȿɨ ůɖ:** Ŭ) $A_{ɓ}=100\Rightarrow Ŭ^2=100\Rightarrow Ŭ=10\,cm$ $h^2=12^2+5^2\Rightarrow h^2=144+25\Rightarrow h^2=169\Rightarrow h=13\,cm$ ɓ) $A_{ȝə}=A_{·}+A_{ɓ}\Rightarrow A_{ȝə}=\frac{Ʉ_{ɓ}h}{2}+100$ $\Rightarrow A_{ȝə}=\frac{4\cdot 10\cdot 13}{2}+100$ $\Rightarrow A_{ȝə}=260+100\Rightarrow A_{ȝə}=360cm^2$  	

7.	ʐ ֆŬ ŰϥəŮђɟ ŬůϤ Ŭɞ℮Ŭɠ ú2300, ΄ ɤ əɶɗϥəŮɛŮɏə΄ Űɤ ůϤ 20%. ʔŬ ɓɟ ŮŰŰŮ΄ ђůɞ ΄ ɤ əɶɗϥəŮϤ ŰϥəŮђɟ ŬůϤ. **<u>ʂɨ ůϤ 1:</u>** $ɇɶɐ\ ΄\ ɩ\ əϥůϥɠ = 2300 \cdot \frac{80}{100} = ú1840$ **<u>ʂɨ ůϤ 2:</u>** $Ōə΄\ Űɤ ůϤ = 2300 \cdot \frac{20}{100} = ú460$ $ɇɶɐ\ ΄\ ɩ\ əϥůϥɠ = 2300 ï\ 460 = ú1840$	
8.	ɇɞ ɛɏůɞ ɓƳɟ ɞɠ ɞəŰ ŬŰђɛɤɜ ΄ ɞg ŮɞŬə ůŮ ɛֆŬ ɓƳɟ əŬ ŮɞŬə 68kg. ʐ ΄ ɐəŬɞ ůŰϤ ɓƳɟ əŬ ɏɜŬ Ŭɓђɟ əɛŮŰɞɜ ΄ ŬŰɏɟ Ŭ Űɞg. ɇɞ ɓƳɟ ɞɠ Űɞg ΄ ŬŰɏɟ Ŭ ŮɞŬəŰɟ ɕ əƳůɞ Ŭ΄ ђ Űɞ ɓƳɟ ɞɠ Űɞg ɔɞɨ Űɞg. ɟ ɜ Űɞ ɛɏůɞ ɓƳɟ ɞɠ ɏɔɞŮ64kg, ɜŬ ɓɟ ŮŰŰŮ΄ ђůɞ ŮɞŬəŰɞ ɓƳɟ ɞɠ Űɞg ΄ ŬŰɏɟ Ŭ əŬə΄ ђůɞ ŮɞŬəŰɞ ɓƳɟ ɞɠ Űɞg ɔɞɨ Űɞg. **<u>ʂɨ ůϤ:</u>** $\frac{Ɇɢ_i}{8} = 68 \Rightarrow Ɇɢ_i = 68 \cdot 8 = 544\ kg$ $\frac{Ɇɣ_i}{10} = 64 \Rightarrow Ɇɣ_i = 64 \cdot 10 = 640\ kg$ $ɗƳɟ\ ɞɠ\ ΄\ ŬŰɏɟ\ Ŭ\ əŬɘɔɞɨ = 640 - 544 = 96$ $3ɢ + ɢ = 96 \Rightarrow 4ɢ = 96 \Rightarrow ɢ = \frac{96}{4} \Rightarrow ɢ = 24$ Ƀ ΄ ŬŰɏɟ Ŭɠ ŮɞŬə72kg əŬəɞ ɔɞɠ ŮɞŬə24kg.	

9.	ҁ ቃŬ ɛɞŭɑůỮ Ŭ Ŭɓɧɟ ŬůŮɏɜŬ ɘɞɛɛƳỮɨ űŬůɛŬ Ŭɞɑŭɠ ú450 ɛŮɏɘ´ Ữɤ ůɖ 12% ɘŬɘɏɜŬ ƳɘɘɞɘɞɛɛƳỮɨ űŬůɛŬ Ŭɞɑŭɠ ú400 ɛŮɏɘ´ Ữɤ ůɖ 15%. ɟ ɜ ɞ ůɡɜỮɐŬůỮɐɠ Ữɞɡ ū .Ʉ.ɟ . ŮɞŬɘ15%, ɜŬ ɓɟ ŮɑỮŮ´ ɧůŬ ´ ɘɐɟ ɤ ůŮůɡɜɞɘɞƳ ɖ ɛɞŭɑůỮ Ŭ. **ʂɨ ůɖ:** $Ʉɟ ι Ữɞ ɘɞɛɛƳỮɐ = 450 \cdot \frac{88}{100} = ú396$ $ɖŮɨ ỮŬ ɞ ɘɞɛɛƳỮɐ = 400 \cdot \frac{85}{100} = ú340$ $Ɇɡɜɞɘɞɧ ɘɧůỮɞɠ = 396 + 340 = ú736$ $Ⱦɧ ůỮɞɠ Ŭɓɞɟ Ƴɠ = 736 \cdot \frac{115}{100} = ú846.40$	
10.	Ǭɜ Ŭɠ ɏɛ´ ɞɟ ɞɠ Ŭɓɧɟ ŬůŮ2000 ɘɞƳ ɘŬɟ ´ ɞɨ ɕɞŬ ´ ɟ ɞɠ 35 ůŮɞŬỮɞ ɘɞɧ ɘŬɘ´ ɘɐɟ ɤ ůŮ 2 ůŮɞŬỮɞ ɘɞɧ ɔɞŬ ɛŮỮŬűɞɟ ɞƳ ɘŬɘú60 ɏɜɞŭŬ Ŭ´ ɞɗɐɘŮɡůɖɠ. Ⱦ ŬỮŬůỮ ƳűɖɘŬɞ 5% Ữɤ ɜ ɘŬɟ ´ ɞɡɕɞ ɜ ɘŬɘ´ ι ɘɖůŮỮŬ ɡ´ ɧɘɞɘ Ŭ´ ɟ ɞɠ 50 ůŮɞŬỮɞ ɘɞɧ. ʔŬ ɓɟ ŮɑỮŮ´ ɧůŬ Ữɞɠ ŮɐŬỮɧ (%) ɕɐɛɞɤ ůŮɐ ɘɏɟ ŭɞůŮɞ ɏɛ´ ɞɟ ɞɠ. **ʂɨ ůɖ:** $Ⱦɧ ůỮɞɠ ɟ ɔɞɟ Ƴɠ = 2000 \cdot 0{,}35 + 2000 \cdot 0{,}02 + 60 = 700 + 40 + 60 = ú800$ $Ɉ´ ɧɘɞɘ Ŭɘ Ŭɟ ´ ɞɨ ɕɞŬ = 2000 \cdot \frac{95}{100} = 1900$ $Ʉɤ ɘɐůŮɞɠ = 1900 \cdot 0{,}50 = ú950$ $950 > 800 \Rightarrow Ⱦɏɟ ŭɞɠ = 950 - 800 = ú150$ $\frac{150}{800} \cdot 100\% = 18{,}75\%$ ɘɏɟ ŭɞɠ	

1.	Ȯ3Ŭ əgəꝏŭɟ ꝏɧ ŭɞɕŮꝏ ɛŮŬəŰꝏŬ ɓϒůɖʃ 6cm əŬəɨ ɣ ɞʃ 21cm ŮꝏŬəɔŮɛϒŰꝏ əɟ Ŭůɑ ŪŬ ůŲ ɓɡ ɞgɛŮŰꝏ əɟ ŬůɑůŮ´ ɞŰɟ ꝏŬ ´ ɞg ɏɕɞg3 ůɕɐɛŬ əɧəɞgɟ ɞg əɩ 3ɞg ɛŮ ŬəŰꝏŬ ɛŮɔϒəɖʃ ɓϒůɖʃ 4cm, ŬəŰꝏŬ ɛꝏɟ ɐʃ ɓϒůɖʃ 2cm əŬəɨ ɣ ɞʃ 6cm. ɹ 3 ŰŬ ´ ɞŰɟ ꝏŬ ɗŬ ɔŮɛɷɞg3 ɛŮəɟ ŬůɑəŬŰϒ Űꝏ 75% Űɖʃ ɕɤ ɟ ɖŰꝏɧŰɖŰŬʃ Űꝏgʃ, 3Ŭ ɓɟ ŮɷŰŮ ´ ɧůŬ ŰɏŰꝏŬ ´ ɞŰɟ ꝏŬ ɗŬ ɕɟ ŮꝏŬůŰꝏɨ ɛŮɔꝏŬ 3Ŭ ůŲ ɓɡ ɞgɛŮɧəɞ Űꝏ əɟ ŬůɑŰꝏg ŭɞɕŮꝏg. **ʂɨ ůɖ:** $V_{əgəꝏŭɟ ɞg} = ´ R^2 g = ´ \cdot 6^2 \cdot 21 = 756´ \ cm^3$ $V_{əɧəɞgɟ ɞg əɩ 3ɞg} = \frac{´ g}{3}\left(R^2 + Rɟ + ɟ^2\right) = \frac{´ \cdot 6}{3}\left(4^2 + 4 \cdot 2 + 2^2\right) = 56´ \ cm^3$ $ɉ \ ɤ \ ɟ \ ɖŰꝏɧŰɖŰŬ \ ´ \ ɞŰɖɟ \ ꝏɨ = 56´ \cdot \frac{75}{100} = 42´ \ cm^3$ $ɹ \ ɟ \ ꝏɗɛɧʃ \ ´ \ ɞŰɖɟ \ ꝏ \ 3 = \frac{756´}{42´} = 18 \ ´ \ ɞŰɟ \ ꝏŬ$	

2.	Λαπŭε Ů ɏзŬ ȩŸɟ э30 ǘɞɟ ɏɠ эŬэŬǗŬɒɟ Ÿɣ Ŭε Ů ǗŬ Ŭ΄ ɞǗŮɨɏůε ŬǗŬ ůǗɞз ΄ ɷ эŸǗɤ ΄ ɑŬэŬ. ʔŬ g΄ ɞэɞзɷǘŮǗŮ	

Ōзŭ Ůɷɖ ȩŬɟ ɷɨ	ɟ ɟ ɷɛ ɧɠ Ůε ű Ŭзɷ Ůɤ з
1	8
2	4
3	7
4	5
5	3
6	3

α) ǗɖзŮ ɷɟ ŬǗɞɨ ůŬ Ǘɤɐ,

β) Ǘɖ εɏůɖ Ǘɤɐ Ǘɞg Ŭɟ ɷɛɞɨ Ǘɤз Ůε ű Ŭзɷ Ůɤ з, эŬэ

γ) Ǘɖз Ǘg΄ ɷɐ Ŭ΄ ɧэɷ ůɖ Ǘɞg Ŭɟ ɷɛɞɨ Ǘɤз Ůε ű Ŭзɷ Ůɤ з.

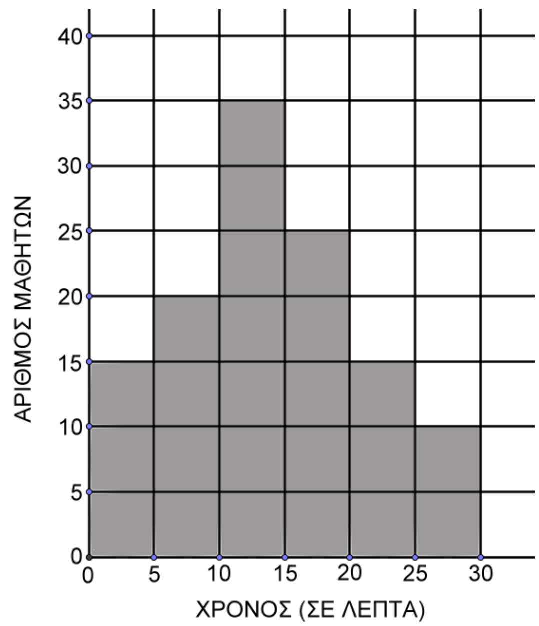
ȿɨ ůɖ:

x_i	f_i	$x_i f_i$	$(x_i-\bar{x})$	$(x_i-\bar{x})^2$	$f_i(x_i-\bar{x})^2$
1	8	8	-2	4	32
2	4	8	-1	1	4
3	7	21	0	0	0
4	5	20	1	1	5
5	3	15	2	4	12
6	3	18	3	9	27
Ɇɨ зɞэɞ	$\Sigma f_i=30$	$\Sigma x_i f_i=90$			$\Sigma f_i(x_i-\bar{x})^2=80$

Ŭ) $x_{Ŭ} = 1$

ɓ) $\bar{x} = \frac{\Sigma x_i f_i}{\Sigma f_i} = \frac{90}{30} = 3$

ɔ) $ů = \sqrt{\frac{\Sigma f_i (x_i-\bar{x})^2}{\Sigma f_i}} = \sqrt{\frac{80}{30}} = \sqrt{2,667} = 1,63$

3.	Ɇǘɞ ǿȗǘȠɔȽ Ǖɛ ɛǗ ǘɞɡ ǚǿ ǝǗɜɞɨ ǚǿǕɓȽ Ƴɛ ɛǗǘɞɠ, ǘǗɞǖǘǕǝɞ ɞȽ ȠɜɞɠɁ (ǖǕǝǕ ǘǓ) ´ ɞɡ ǕɞǗɜ ɛǿɜǖǕǚǖǘɞ ǘȡǝɨǘ ɤ ɜȠ ǘɞɡɠ ɞǝɛ ǕȡȡǘɁɠ ɛǿǕɠ ɇǕɜǿɛɠ Ɇɞɞǝɛɠ, ɛǿǕ ǖɡɔǝǕɓȽ ǿɨɜȡ ɛɨȽ Ǖ. ʔǕ ɡ´ ɞǝɞɔɞǖǕǘǘ α) ´ Ƞǖɞǝǖɞ Ǖɞɞɛ ǕȡȡǘɁɠ ǘȡɠ ǿǕɜǿɛɠ Ɇɞɞǝɛɠ ǕɡǘɁɠ, β) ´ Ƞǖɞɛ ǕȡȡǘɁɠ ɛɞȡǖǕɜ ´ ǕȽ ǿǖȠǘǕȽ ɞ Ǖ´ Ƞ ǚɨǝǕ ǝǕ ǘǓ, γ) ´ ɞǿ ǕɜǕǝǘɞ ´ ɞǖɞǖǘȠ (%) ǘɤ ɜ ɛǕȡȡǘ ɜ ´ ɞɡ ɛɞȡǖǕɜ Ǖ´ Ƞ 20 ɛɨɞȽ ǝ25 ǝǕ ǘǓ.  **ʂɨ ǖȡ:** α) Ɇɡɜɞǝǿ Ƞɠ ǕȽ ǿ. ɛǕȡȡǘ ɜ $=15+20+35+25+15+10=120$ β) $35+25+15+10=85$ ɐ $120-(15+20)=85$ γ) $\frac{15}{120}\cdot 100\% = 12{,}5\%$	

4.

Ōȝ Ŭɠ Ů ə́ əɞ´ ɞɕɧɠ ɏəŬȝŮŮɕŬɔɤ ɔɐ ȝɡəŮɑŬɠ Ŭȝɑ Ŭɠ ú15.000 əŬə´ əɐɟ ɤ ůŮű ɧɟ ɞɡɠ 20% ´ ɎȝɤůŰɖȝ ŬȝɑŬ Űɖɠ ȝɡəŮɑŬɠ. ɀ ŮŰɖ ȝɡəŮɑŬ ´ ɞɡ ŮɕɐɔŬɒŮəŬŰŬůəŮ ŬůŮ60 Ůɟ ɛɎɟ ɕŬ əŬəɏəŬȝŮəŬŰŬůəŮɡŬůŰɐɎ ɏȝɞŭŬ 15% ´ Ɏȝɤ ůŰɞ ůɡȝɞəɕɧ əɧůŰɞɠ Űɖɠ ȝɡəŮɑŬɠ. ʔŬ ɓɟ ŮɑŰŮ

α) ɄɧůŬ Űɞɡ əɧůŰɕŮŰɞ əɎɗŮŮɟ ɛɎɟ ə;

β) ɄɧůŬ ´ ɟɏ´ ŮɐȝŬ ´ ɤ əŮɑŰɞ əɎɗŮŮɟ ɛɎɟ ə, ɔɕŬ ȝŬ ɏɕŮɐəɏɟ ŭɞɠ 35%;

γ) ɄɧůŬ ɗŬ əɞůŰɕŮɐ ůŰɞȝ əŬŰŬȝŬəɤŰɐ ɏȝŬ Ůɟ ɛɎɟ ə, Ŭȝ ɗŬ ´ əɖɟ ɩ ůŮɐəŬə 15% ū .Ʉ.ɹ .;

ȿɨ ůɖ:

α) $Ɉɧůŭɞɠ = 15000 \cdot \frac{120}{100} = ú18000$

$18000 \cdot \frac{115}{100} = 20700$

$20700 : 60 = 345$

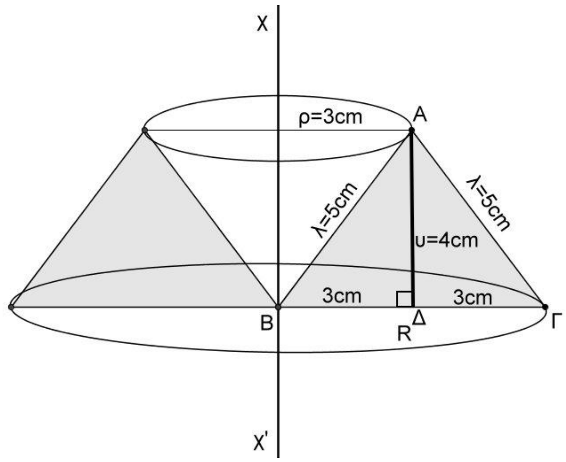
ɈɎɗŮŮɟ ɛɎɟ əəɧůŰɕŮú345

β) $345 \cdot \frac{135}{100} = 465,75$

ŪŬŰɞ ´ ɤ əŮɑú465.75

γ) $465,75 \cdot \frac{115}{100} = 535,6125$

ɗŬ əɞůŰɕŮɐ ú 535.61

5.	Ɇΰʙ ´ ᵹ əϒΰɤ ůɢɐɛŬ ΰʙ ȷ ɖũ ŮᵬŬə ᵴůɢůəŮəɣɠ Ű ɷɤɜɞ ɛŮ $AB = ȷũ = 5cm$, $ɖũ = 6cm$ əŬə $ɖũ \perp ɢ'ɢ$. ɇɞ Ű ɷɤɜɞ ȷ ɖũ ´ Ů ᵴŮŰɏűŮŰŰə´ əɐȷɖ ůŰɞűɐ ɔɨȷɤ Ŭ´ ɧ ΰʙɜ ϒɜɞɜŬ ɢ'ɢ. ʔŬg´ ɞəɞɔɖůŮŰŰ α) Űɖɜ ɞəᵹɐ Ů ᵴűϒɜŮᵬŬ ΰʙg ůŰŰ Ůʙɨ ´ ɞg ´ Ŭȷ ϒɔŮŰŰə əŬə β) Űʙɜ ɧɔəɞ ΰʙg. **ᶊɨ ůɖ:** Ɉɧəɞgȷ ɞɠəι ɜɞɠ Ɉι ɜɞɠ $R = 6cm$ $ȷ = 3cm$ $ə = 5cm$ $g = 4cm$ $R = 3cm$ $ə = 5cm$ $g = 4cm$  $g^2 + 3^2 = 5^2 \Rightarrow g^2 + 9 = 25$ $g^2 = 25 - 9 \Rightarrow g^2 = 16 \Rightarrow g = 4$ α) $Ɐ_{ɞə} = Ɐ_{ə.əι\ ɜɞg} + Ɐ_{ə.əɞə.əι\ ɜɞg} + Ɐ_{əɨ\ əəɞg} = πRə + π(R + ȷ)ə + πR^2$ $Ɐ_{ɞə} = π \cdot 3 \cdot 5 + π(6+3)5 + π \cdot 6^2 = 15π + 45π + 36π$ $Ɐ_{ɞə} = 96π\ cm^2$ β) $V = V_{ə.əɞə.əι\ ɜɞg} - V_{ə.əι\ ɜɞg} = \frac{π(R^2 + R \cdot ȷ + ȷ^2)g}{3} - \frac{πR^2 g}{3}$ $V = \frac{π(6^2 + 6 \cdot 3 + 3^2)4}{3} - \frac{π \cdot 3^2 \cdot 4}{3} = \frac{252π}{3} - \frac{36π}{3}$ $V = \frac{216π}{3} \Rightarrow V = 72π\ cm^3$	