1. Вычисление коэффициентов уравнения $y = a + bx$ при помощи МНК, для зависимости P от T:

Formula for $< xy >$:
$(306.500000 \cdot 10665.80 + 305.299988 \cdot 10105.80 + 304.100006 \cdot 9319.20 + 303.100006 \cdot 8772.60 + 302.100006 \cdot 8265.90 + 301.100006 \cdot 7852.70 + 298.899994 \cdot 6852.80 + 298.100006 \cdot 6439.50 + 297.100006 \cdot 6132.80 + 296.100006 \cdot 5652.90 + 295.100006 \cdot 5319.60 + 294.100006 \cdot 5020.00 + 293.100006 \cdot 4679.60 + 292.100006 \cdot 4259.60 + 293.500000 \cdot 4772.90 + 294.700012 \cdot 5039.60 + 295.700012 \cdot 5546.20 + 296.500000 \cdot 5799.50 + 297.500000 \cdot 6132.80 + 298.899994 \cdot 6612.80 + 299.500000 \cdot 7039.40 + 300.500000 \cdot 7532.70 + 301.500000 \cdot 7986.00 + 302.500000 \cdot 8479.30 + 303.500000 \cdot 9052.60 + 304.500000 \cdot 9465.90 + 305.500000 \cdot 10132.50 + 306.700012 \cdot 10812.50)/28$

Formula for $< x >$:
$(306.500000 + 305.299988 + 304.100006 + 303.100006 + 302.100006 + 301.100006 + 298.899994 + 298.100006 + 297.100006 + 296.100006 + 295.100006 + 294.100006 + 293.100006 + 292.100006 + 293.500000 + 294.700012 + 295.700012 + 296.500000 + 297.500000 + 298.899994 + 299.500000 + 300.500000 + 301.500000 + 302.500000 + 303.500000 + 304.500000 + 305.500000 + 306.700012)/28$

Formula for $< y >$:
$(10665.80 + 10105.80 + 9319.20 + 8772.60 + 8265.90 + 7852.70 + 6852.80 + 6439.50 + 6132.80 + 5652.90 + 5319.60 + 5020.00 + 4679.60 + 4259.60 + 4772.90 + 5039.60 + 5546.20 + 5799.50 + 6132.80 + 6612.80 + 7039.40 + 7532.70 + 7986.00 + 8479.30 + 9052.60 + 9465.90 + 10132.50 + 10812.50)/28$

Formula for $< x^2 >$:
$(306.500000^2 + 305.299988^2 + 304.100006^2 + 303.100006^2 + 302.100006^2 + 301.100006^2 + 298.899994^2 + 298.100006^2 + 297.100006^2 + 296.100006^2 + 295.100006^2 + 294.100006^2 + 293.100006^2 + 292.100006^2 + 293.500000^2 + 294.700012^2 + 295.700012^2 + 296.500000^2 + 297.500000^2 + 298.899994^2 + 299.500000^2 + 300.500000^2 + 301.500000^2 + 302.500000^2 + 303.500000^2 + 304.500000^2 + 305.500000^2 + 306.700012^2)/28$

Formula for $< y^2 >$:
$(10665.799805^2 + 10105.799805^2 + 9319.200195^2 + 8772.599609^2 + 8265.900391^2 + 7852.700195^2 + 6852.799805^2 + 6439.500000^2 + 6132.799805^2 + 5652.899902^2 + 5319.600098^2 + 5020.000000^2 + 4679.600098^2 + 4259.600098^2 + 4772.899902^2 + 5039.600098^2 + 5546.200195^2 + 5799.500000^2 + 6132.799805^2 + 6612.799805^2 + 7039.399902^2 + 7532.700195^2 + 7986.000000^2 + 8479.299805^2 + 9052.599609^2 + 9465.900391^2 + 10132.500000^2 + 10812.500000^2)/28$

$y = a + bx$

$b = \frac{<xy>-<x><y>}{<x^2>-<x>^2} = \frac{2188124.75000-299.56430\cdot 7276.55371}{89757.3203125000-89738.7734375000} = 449.079803$

$a =< y > -b < x >= 7276.55371-449.079803\cdot 299.56430 = -127251.726563$

$\sigma_b = \frac{1}{\sqrt{n}}\sqrt{\frac{<y^2>-<y>^2}{<x^2>-<x>^2} - b^2} = \frac{1}{5.292}\sqrt{\frac{56722556.000000-52948232.000000}{89757.320313-89738.773438} - 449.080} = 8.082640$

$\sigma_a = \sigma_b\sqrt{< x^2 > - < x >^2} = 8.082640\sqrt{89757.320313 - 89738.773438} = 34.808762$

2. Вычисление коэффициентов уравнения $y = a + bx$ при помощи МНК, для зависимости *ln(P)* от *1/T*:

Formula for $< xy >$:
$(0.003407\cdot 8.47+0.003393\cdot 8.53+0.003382\cdot 8.62+0.003373\cdot 8.67+0.003361\cdot 8.72 + 0.003346 \cdot 8.80 + 0.003339 \cdot 8.86 + 0.003328 \cdot 8.93 + 0.003317 \cdot 8.99 + 0.003306 \cdot 9.05 + 0.003295 \cdot 9.11 + 0.003284 \cdot 9.16 + 0.003273 \cdot 9.22 + 0.003261 \cdot 9.29+0.003260\cdot 9.27+0.003275\cdot 9.22+0.003288\cdot 9.14+0.003299\cdot 9.08+0.003310\cdot 9.02+0.003321\cdot 8.97+0.003346\cdot 8.83+0.003355\cdot 8.77+0.003366\cdot 8.72+0.003377\cdot 8.64 + 0.003389 \cdot 8.58 + 0.003400 \cdot 8.52 + 0.003412 \cdot 8.45 + 0.003423 \cdot 8.36)/28$

Formula for $< x >$:
$(0.003407 + 0.003393 + 0.003382 + 0.003373 + 0.003361 + 0.003346 + 0.003339 + 0.003328 + 0.003317 + 0.003306 + 0.003295 + 0.003284 + 0.003273 + 0.003261 + 0.003260 + 0.003275 + 0.003288 + 0.003299 + 0.003310 + 0.003321 + 0.003346 + 0.003355 + 0.003366 + 0.003377 + 0.003389 + 0.003400 + 0.003412 + 0.003423)/28$

Formula for $< y >$:
$(8.47 + 8.53 + 8.62 + 8.67 + 8.72 + 8.80 + 8.86 + 8.93 + 8.99 + 9.05 + 9.11 + 9.16 + 9.22 + 9.29 + 9.27 + 9.22 + 9.14 + 9.08 + 9.02 + 8.97 + 8.83 + 8.77 + 8.72 + 8.64 + 8.58 + 8.52 + 8.45 + 8.36)/14$

Formula for $< x^2 >$:
$(0.003407^2 + 0.003393^2 + 0.003382^2 + 0.003373^2 + 0.003361^2 + 0.003346^2 + 0.003339^2 + 0.003328^2 + 0.003317^2 + 0.003306^2 + 0.003295^2 + 0.003284^2 +$

$0.003273^2 + 0.003261^2 + 0.003260^2 + 0.003275^2 + 0.003288^2 + 0.003299^2 + 0.003310^2 + 0.003321^2 + 0.003346^2 + 0.003355^2 + 0.003366^2 + 0.003377^2 + 0.003389^2 + 0.003400^2 + 0.003412^2 + 0.003423^2)/28$

Formula for $< y^2 >$:

$(8.470710^2 + 8.525082^2 + 8.620869^2 + 8.665527^2 + 8.721407^2 + 8.796762^2 + 8.859279^2 + 8.927009^2 + 8.985445^2 + 9.045383^2 + 9.110807^2 + 9.155451^2 + 9.223503^2 + 9.288458^2 + 9.274800^2 + 9.220865^2 + 9.139832^2 + 9.079389^2 + 9.019894^2 + 8.968613^2 + 8.832413^2 + 8.770206^2 + 8.721407^2 + 8.639924^2 + 8.579153^2 + 8.521185^2 + 8.450968^2 + 8.356931^2)/28$

$y = a + bx$

$b = \frac{<xy> - <x><y>}{<x^2> - <x>^2} = \frac{0.02956 - 0.00334 \cdot 8.85612}{0.0000111498 - 0.0000111474} = -5613.902344$

$a =< y > -b < x >= 8.85612 + 5613.902344 \cdot 0.00334 = 27.599686$

$\sigma_b = \frac{1}{\sqrt{n}} \sqrt{\frac{<y^2> - <y>^2}{<x^2> - <x>^2} - b^2} = \frac{1}{5.292} \sqrt{\frac{78.504333 - 78.430794}{0.000011 - 0.000011} + 5613.902} = 71.558449$

$\sigma_a = \sigma_b \sqrt{< x^2 > - < x >^2} = 71.558449 \sqrt{0.000011 - 0.000011} = 0.003449$