12. Suppose an activation energy is 31.05×10^{-21} J. First find the average kinetic energy <K> for an ideal gas at 300 K and for the same gas at 375 K. Then find the ratios of the activation energy to these two values of average energy; these ratios represent y in the table on the formula sheet. Use the table to find the fraction of gas molecules having energies greater than the activation energy for the two cases. Make use of this information to find how much greater the reaction rate at 375 K is compared to that at 300 K?

A. 4.2
B. 1.25
C. 3
D. 2.5
E. 7.6
F. 1.8

Ans._____

Cutoff energy	Fraction with K > cutoff
0.5<K>	0.685
1.0<K>	0.392
2.0<K>	0.112
3.0<K>	0.029
4.0<K>	0.0076
5.0<K>	0.0018