The activation energy can be found using the Arrhenius equation. Since two data points are provided, we can make use of the form of the equation written at two temperature T1 and T2 as follows:

We have, t1 = 30 min and T1 = 336 K; t2 = 15 s = 0.25 min and T2 = 347 K

The faster the milk pasteurization occurs (higher rate), the lesser time required to be heated (Or mathematically, r is proportional to1/t) Therefore, the above expression can be written as:

Substituting,

from which the activation energy E can be computed as 422 kJ/mol