Math Pre-test

The following problems are representative of the types of calculations found in Chem 106. Solve for the indicated variable using only a simple scientific calculator.

1. Solve for \( h \):
   \[
   619 = 760e^{-0.0000367h}
   \]

2. Solve for \( P \):
   \[
   \ln\left(\frac{760}{P}\right) = -\frac{25,500}{8.31}\left(\frac{1}{355} - \frac{1}{323}\right)
   \]

3. Solve for \( K \):
   \[
   4.59 = -\log_{10} K
   \]

4. Solve for \( x \):
   \[
   \frac{4.6 \times 10^{-4}}{4.4 \times 10^{-3}} = \left(\frac{0.20}{0.90}\right)^x
   \]

5. Solve for the positive value of \( x \):
   \[
   0.5 = \frac{(0.6 - x)(0.2 - x)}{(0.2 + 2x)^2}
   \]
ANSWERS:

1. 5592
2. 323
3. $2.57 \times 10^{-5}$
4. 1.5
5. 0.078