

## Log Practice Problems

### Answers

Solve the following expressions.

1.  $\ln x = \ln 2x + y$       $y = -0.693$

2.  $\ln \frac{x}{5.00} = -3.50$       $x = 0.151$

3. Solve for  $E_a$  at a temperature of 298K given the following expression:  
( $R = 8.314 \text{ J/K mol}$ )

$$5.1 \times 10^{-3} = e^{-\frac{E_a}{RT}} \quad E_a = 13.1 \text{ kJ}$$

4.  $2^x = 0.00135$       $x = -9.533$

5.  $\text{Antilog } 5.2 = 1.58 \times 10^5$

$$\ln \frac{0.025}{0.075} = -1.099$$

7.  $\frac{\ln 0.025}{\ln 0.83} = 19.8$

8. Solve the following equation for  $E_a$ : (e.g.  $E_a = ??$  )

$$k = A e^{-\frac{E_a}{RT}} \quad E_a = -RT \ln \frac{k}{A}$$