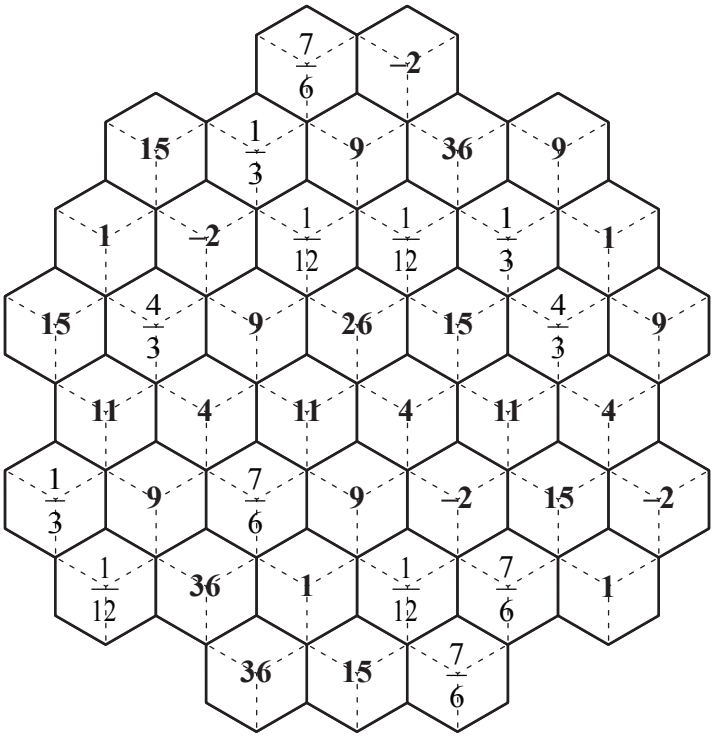
ACTIVITY 15

Name _____



Solve for x in each equation by using the following properties of logarithms:

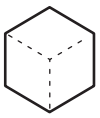
$\log_x(ab) = \log_x a + \log_x b$

$\log_x\left(\frac{a}{b}\right) = \log_x a - \log_x b$

$m \log_x a = \log_x(a^m)$

 $\log_5(x + 6) = \log_5 8 - \log_5 2$

 $\log_{10}(3x + 10) = \log_{10} 8 + \log_{10} 11$

 $\ln 5 = \ln x - \ln 3$

 $\ln 20 = \ln x + \ln 5$

 $2 \ln x = 4 \ln 3$

 $\log_{10}(4x + 8) = \log_{10}(3x) + \log_{10} 4$

 $2 \log_2 x = 4 \log_2 6$

 $\ln(x + 2) - \ln x = 2 \ln 5$

 $\log_3 x - \log_3 11 = \log_3(x - 10)$

 $\ln 6 + \ln x = \frac{1}{3} \ln 343$

 $\log_5 x + \log_5 3 = 2 \log_5 2$

 $\log_2(x + 1) - \log_2(2x) = \frac{1}{4} \log_2 16$