Logarithmic Equations - Step-by-Step Lesson

Determine the value of x in the following logarithmic equation:

8 + 2 ln x = 16

Explanation:

Isolate the logarithmic expression first:

$8 + 2 \ln x = 16$

$2 \ln x = 16 - 8$

$2 \ln x = 8$

$\ln x = 8/2$

$\ln x = 4$

Remember that e^x & ln x are inverse functions.

Hence,

$e^{\ln x} = e^4$

$x = e^4 \qquad$ as $e^{\ln x} = x$

So the answer is $x = e^4$