Unique in mathematics 2

Abstract: Novelty which earlier - before it appears - no one saw; the beautiful equation.

Here's the news from the last hour, which no one have seen before.

$$\ln(x) = \frac{\log(x)}{\log(e)}$$

The similarity of this pattern can be saved by hastily contrived logarithm:

$$\log_y(x) = \frac{\log(x)}{\log(y)}$$

On the left side of the equation is written logarithm on the basis of "y", calculated from any number of "x".

After the transformation is obtained:

$$y^{\frac{\log(x)}{\log(y)}} = x \qquad y^{\log(x)} = x^{\log(y)}$$

Numerical verification:	
$y := 3 \quad x := 5$	$y := 4 \quad x := 7$
$y^{\log(x)} = 2.155$	$y^{\log(x)} = 3.227$
$x^{\log(y)} = 2.155$	$x^{\log(y)} = 3.227$
$e^{\log(10)} = 2.718 = 10^{\log(e)}$	

Above equation is a consequence of the fact that for any value of "z" equation is true: $z^{\frac{1}{\log(z)}} = 10$.

Beautiful equation:

$$\log_x(z) = \log_x(y) * \log_y(z)$$

Proof of correctness:

$$\frac{\log_x(z)}{\log_x(y)} = \log_y(z)$$

$$y^{\frac{\log_x(z)}{\log_x(y)}} = z$$

$$\frac{\log_x(z)}{\log_x(y)} * \log_x(y) = \log_x(z)$$

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