

The Algebraic Merry Christmas Equation looks like this:

$$\overset{\text{🎅}}{y} = \frac{\ln\left(\frac{x}{m} - as\right)}{r^2}$$

Let's solve it!

Step 1: Multiply both sides by $\overset{\text{🎅}}{r^2}$.

$$\overset{\text{🎅}}{y} = \frac{\ln\left(\frac{x}{m} - as\right)}{r^2} \rightarrow \overset{\text{🎅}}{r^2 y} = \ln\left(\frac{x}{m} - as\right)$$

Step 2: Raise both sides to the exponential function $\overset{\text{🎅}}{e}$.

$$\overset{\text{🎅}}{r^2 y} = \ln\left(\frac{x}{m} - as\right) \rightarrow \overset{\text{🎅}}{e^{r^2 y}} = e^{\ln\left(\frac{x}{m} - as\right)}$$

Step 3: Simplify

$$\overset{\text{🎅}}{e^{r^2 y}} = e^{\ln\left(\frac{x}{m} - as\right)} \rightarrow \overset{\text{🎅}}{e^{r^2 y}} = \frac{x}{m} - as$$

Step 4: Multiply by m on both sides.

$$\overset{\text{🎅}}{e^{r^2 y}} = \frac{x}{m} - as \rightarrow \overset{\text{🎅}}{me^{r^2 y}} = x - mas$$

Step 5: Simplify

$$\overset{\text{🎅}}{me^{r^2 y}} = x - mas \rightarrow \boxed{\overset{\text{🎅}}{me^{ry}} = x - mas}$$