

13.8

A) Find the inverse, $g(x)$, of the function

$$f(x) = \frac{1}{2} \ln(x + 6)$$

$$g(x) = e^{2x} - 6$$

B) Expand $\log_6 \frac{8x^2}{y}$

$$\log_6 8 + 2\log_6 x - \log_6 y$$

C) Solve $\log_4 2x + \log_4(x - 2) = 2$
[double check your answers]

$$x = 4$$

D) Simplify $\log 10^6 - e^{\ln 4}$

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$$\text{E) } \log(12x - 8) - \log 2 = \log 68$$

$$x = 12$$

$$\text{F) } 0.2^{-5x+1} = 25^{3x+2}$$

$$x = -5$$

G) Condense $3\ln 2 - 4\ln x - \ln y$

$$\ln \frac{8}{x^4 y}$$

H) $2e^{2x} - 7 = 5$

[round to nearest hundredth]

$$x = 0.90$$

I) Given $\log_a 4 = 2.4$, $\log_a 6 = 8.1$, find $\log_a 9$