

# Expanding and Condensing Logarithms

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A) Expand each expression.

1)  $7 \log_e \left( \frac{g^5}{h^2} \right) =$  \_\_\_\_\_

2)  $\log_a \left( \frac{x^4}{y^2 z^3} \right) =$  \_\_\_\_\_

3) **Preview**

4)

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B)

1) 

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2)  $8 (\log_e 9 - \log_e 2) =$  \_\_\_\_\_

3)  $\frac{1}{6} (5 \log_2 3 + \log_2 k) =$  \_\_\_\_\_

4)  $(27 \log_6 m + 12 \log_6 n) - 3 \log_6 p =$  \_\_\_\_\_

5)  $3 \log_8 u - 2 \log_8 v =$  \_\_\_\_\_