

# Expanding and Condensing Logarithms

A) Expand each expression.

1)  $\log_8\left(\frac{f}{g^3 h^4}\right) =$  \_\_\_\_\_

2)  $4 \log_a\left(\frac{p^6 q^3}{r^2 s}\right) =$  \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

5) \_\_\_\_\_

B)

1) \_\_\_\_\_

2)  $\frac{1}{5} (2 \log_2 4 + \log_2 w) =$  \_\_\_\_\_

3)  $(\log_x l + \log_x m) - \log_x n =$  \_\_\_\_\_

4)  $40 \log_3 t - (8 \log_3 w + 16 \log_3 x) =$  \_\_\_\_\_

5)  $4 (\log_7 a - \log_7 b) =$  \_\_\_\_\_

## Preview

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