

Single Logarithm and Expansion

Sheet 3

Expand each expression :

1) $\log_e \left(\frac{p^8 q^5}{r} \right) =$ _____

2) $8 \log_4 \left(\frac{y^2}{z^3} \right) =$ _____

3) $\log_8 \left(\frac{6}{h} \right)^2$ _____

4) $\log_6 \left(\frac{l^4}{m^5 n^2} \right)$ _____

5) $\log_3 \sqrt[4]{7c^5}$ _____

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Rewrite each expression

6) $4 (\log_5 8 - \log_5 \dots)$ _____

7) $(20 \log_7 g + 12 \dots)$ _____

8) $7 \log_e x - 3 \log_e y =$ _____

9) $8 \log_3 u - (4 \log_3 v + 10 \log_3 w) =$ _____

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