



1. Express $\lg 5 + \lg 4$ in the form $\lg n$

(2)

2. $\log 10^3 - \log 40$

(2)

3. $\log_3 54 - \log_3 2$

(3)

4. $2 \log 2 + \log 25$

(3)

5. Express $\log_{10} \frac{1}{ab}$ in the form $p \log_{10} a + q \log_{10} b$

(2)

6. $\frac{1}{2} \log_5 \left(1 \frac{9}{16} \right) + 2 \log_5 10$

(4)

Solutions

1.

$= \log(5 \times 4)$	M1
$= \log 20$	M1

2.

$\log 10^3 - \log 40$ $= \log 1000 - \log 40$	M1
$= \log(1000 \div 40)$ $= \log 25$	M1

3.

$\log_3(54 \div 2)$ $= \log_3 27$	M1
$= \log_3 3^3$	M1
$= 3$	M1

4.

$\log 2^2 + \log 25$ $= \log 4 + \log 25$	M1
$= \log(4 \times 25)$ $= \log 100$	M1
$= \log 10^2$ 2	M1

5.

$-\log_{10} ab$	M1
$= -\log_{10} a - \log_{10} b$	M1

6.

$\frac{1}{2} \log_5 \left(\frac{25}{16} \right) + \log_5 10^2$ $= \log_5 \left(\frac{25}{16} \right)^{\frac{1}{2}} + \log_5 100$	M1
$= \log_5 \frac{5}{4} + \log_5 100$ $= \log_5 \left(\frac{5}{4} \times 100 \right)$	M1
$= \log_5 125$ $= \log_5 5^3$	M1
$= 3$	M1

