

Name:

Result:

1. *(9 points)*Let $\log_2 A = x$, $\log_2 B = y$ and $\log_2 C = z$. Express the following in terms of x , y and z :

(a) $\log_2 \frac{A}{B \times C}$ [2]

(b) $\log_2 \frac{C^2 \times \sqrt{A}}{B^3}$ [2]

(c) $\log_B(8A)$ [2]

(d) $\log_{AC} \sqrt{2B}$ [3]

2.*(11 points)*

Solve the following equations:

(a) $\log_3 x - \log_3(x + 2) = -2$ [2]

(b) $\log_4 x + \log_4(x - 6) = 2$ [3]

(c) $\log_4(4 - x) = \log_{16}(9x^2 - 10x + 1)$ [3]

(d) $25\log_2 x = \log_x 2$ [3]