

## Essential Skills 32

The skills in this series of worksheets appear frequently.

These are the GIFTS you must take to succeed

### Using Logarithms to Determine the Connection between Two Variables



Obtain a formula for  $y$  in terms of  $x$  for each:

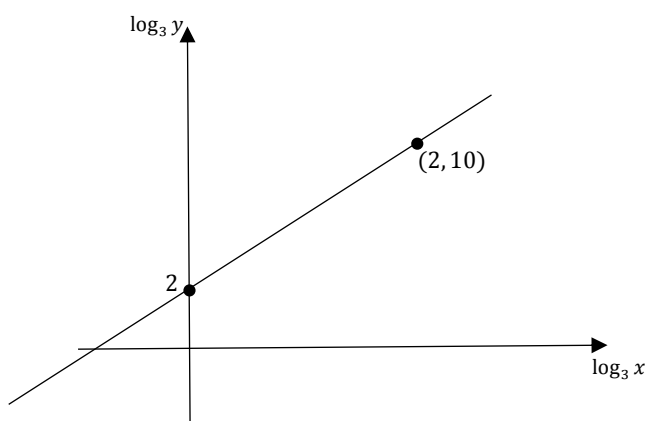
1.  $\log_5 y = 3 \log_5 x + \log_5 2$
2.  $\log_2 y = 2 \log_2 x + \log_2 0 \cdot 5$
3.  $\log_3 y = \log_3 7 - \log_3 x$
4.  $\log_{10} y = \log_{10} 13 - \frac{1}{2} \log_{10} x$
5.  $\log_e y = 0 \cdot 2 \log_e x + \log_e 3$
6.  $\log_2 y = x \log_2 3 + \log_2 8$
7.  $\log_5 y = x \log_5 0 \cdot 8 - \log_5 0 \cdot 2$
8.  $\log_2 y = 4 \log_2 x + 3$
9.  $\log_9 y = 2 \log_9 x + \frac{3}{2}$
10.  $\log_6 y = x \log_6 \frac{1}{6} + 1$



### APPLYING QUESTIONS

Find a formula for each:

(a)  $y = kx^n$



(b)  $y = ab^x$

