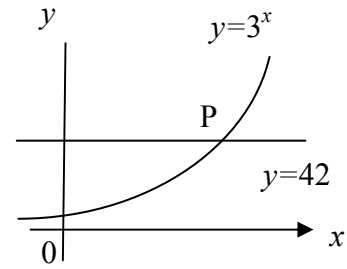# Exponential / Log Graphs

1. The diagram shows part of the graph with equation $y = 3^x$ and the straight line with equation $y = 42$.
    These graphs intersect at P.
    Solve algebraically the equation $3^x = 42$, and hence write down, correct to 3 decimal places, the coordinates of P.

    (4)

2. The graph illustrates the law $y = kx^n$.
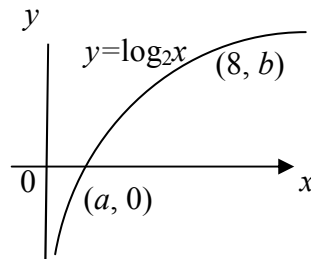   If the straight line passes through A(0.5, 0) and B(0, 1), find the values of k and n.
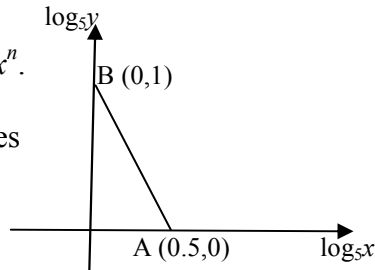
    (4)

3. The diagram shows part of the graph of $y = \log_2 x$.
    (a) State the values of a and b

    (1)

    (b) Sketch the graph of
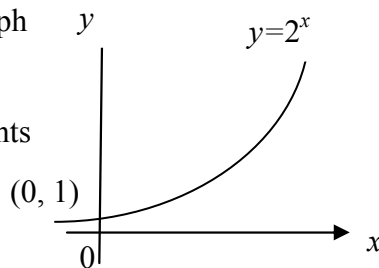 $y = \log_2(x+1) - 3$

    (3)

4. The diagram shows part of the graph of $y = 2^x$.
    (a) Sketch the graph of $y = 2^x - 8$.

    (2)

    (b) Find the coordinates of the points where it crosses the x and y axis

    (2)

    Total (16)