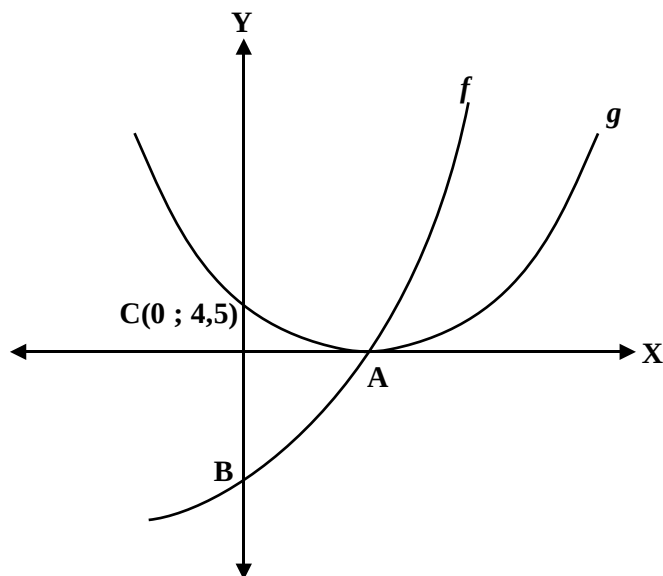


Exercise 2024-12 EF-00007(3) Revision from past papers

The graphs of $f(x) = 2^x - 8$ and $g(x) = ax^2 + bx + c$ sketched below. B and C(0 ; 4,5) are the y-intercepts of the graphs of f and g respectively. The two graphs intersect at A, which is the turning point of the graph of g and the x-intercept of the graphs of f and g .



- (1) Determine the coordinates of A and B. (4)
- (2) Write down the equation of the asymptote of graph f . (1)
- (3) Determine the equation of h if $h(x) = f(2x) + 8$. (2)
- (4) Determine the equation of h^{-1} in the form $y = \dots$. (2)
- (5) Write down the equation of p , if p is the reflection of h^{-1} in the x -axis. (1)
- (6) Calculate $\sum_{k=0} g(k) - \sum_{k=4} g(k)$. Show ALL calculations. (4)