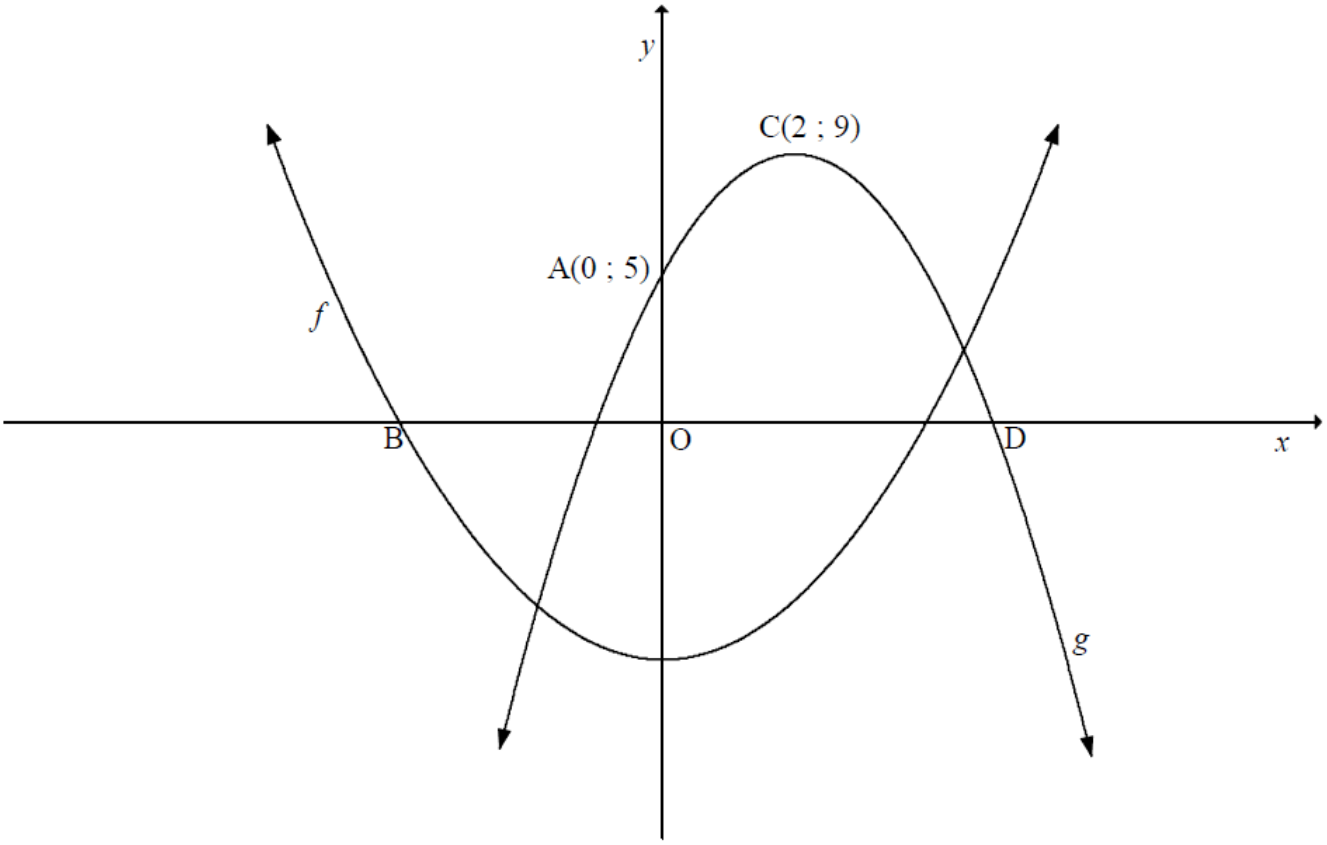
MONYETLA PROJECT GR 11 SUMMER CAMP DEC 2020
MATHEMATICS
GRADE 12
EXAM-TYPE QUESTION

QUESTION 6

The sketch below represents the graphs of two parabolas, f and g.

$f(x)=\frac{1}{2}x^2-8$

The turning point of g is C (2 ; 9) and the y-intercept of g is A (0 ; 5).
B and D are the x-intercepts of f and g respectively.



6.1 Show that $g(x)=-x^2+4x+5$. (4)

6.2 Calculate the average gradient of g between A and C. (2)

6.3 Calculate the length of BD. (5)

6.4 Use the graphs to solve for x, if:

6.4.1 $f(x)\geq 0$ (2)

6.4.2 f and g are both strictly increasing (2)

[15]