Mathematics 122

Name: _____ Key _____

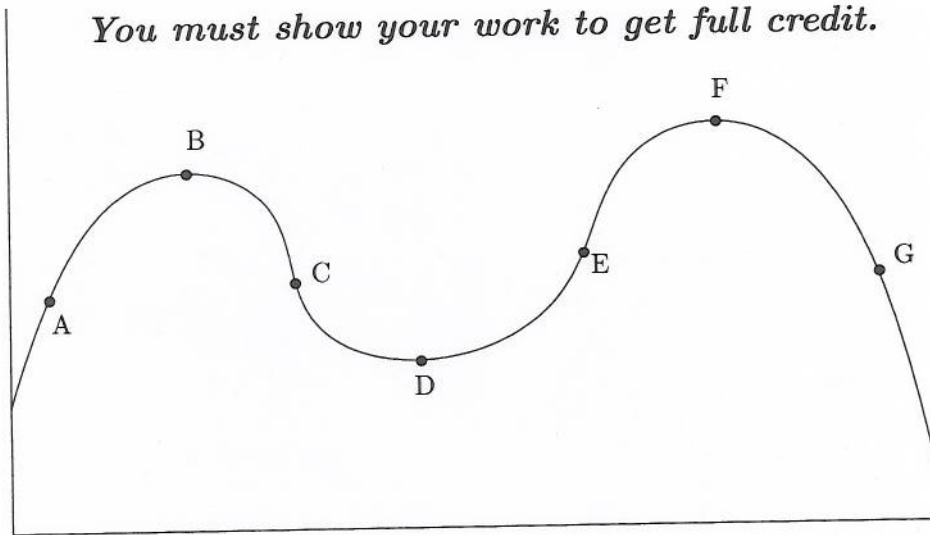You must show your work to get full credit.

FIGURE 1. Graph of $y = f(x)$

(1) In the graph of $y = f(x)$ above

1 pt (a) At which of the labeled points is $f'(x) > 0$ _____ A, E _____

1 pt (b) At which of the labeled points is $f'(x) < 0$ _____ C, G _____

1 pt (c) At which of the labeled points is $f'(x) = 0$ _____ B, D, F _____

(2) The quantities A and r are related by

r	0.0	0.2	0.4	0.6
A	8.1	7.7	6.9	5.7

2 pts

Estimate the derivative $A'(0.2)$. $A'(0.2) = $ _____ 3 _____

left estimate $\frac{8.1 - 7.7}{0.2 - 0.0} = 2$

right estimate $= \frac{7.7 - 6.9}{0.4 - 0.2} = 4$

Best guess $= \frac{2+4}{2} = 3$

full credit
for any
of those
answers.