

1.) Match each of the functions, whose second derivatives are given below with one of the graphs below. (12 points)

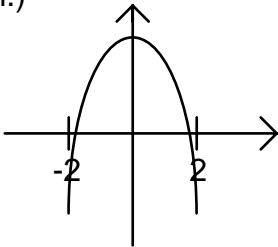
(a.)  $f''(x) = x(x-2)$

(c.)  $g''(x) = x(x-2)^2$

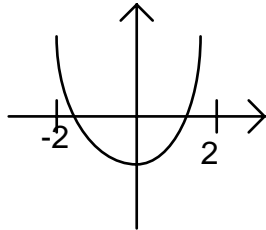
(b.)  $F''(x) = x^2(x-2)$

(d.)  $G''(x) = x^2(x-2)^2$

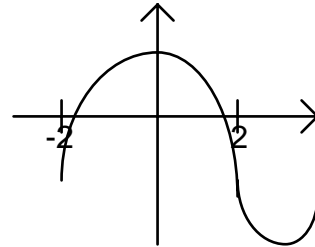
(i.)



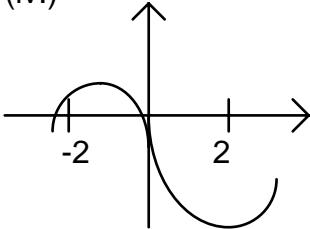
(ii.)



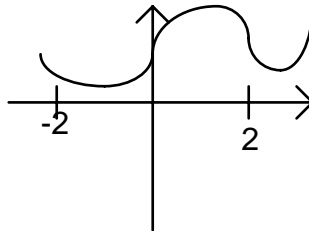
(iii.)



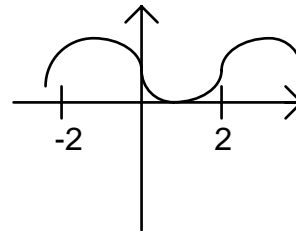
(iv.)



(v.)



(vi.)



2.) How much money must be invested at an interest rate of 11% per year compounded continuously to amount to \$100,000 after 18 years? (6 points)

3.) Solve for  $x$ :  $\ln x = 1 + \ln(x-1)$  (7 points)