It's a Match Up AP Calculus

Each of the given Function Graphs (G1—G10), has a set of matching cards including:

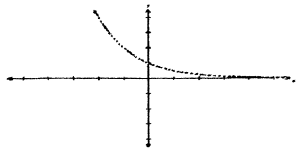
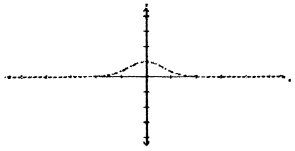
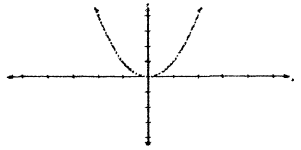
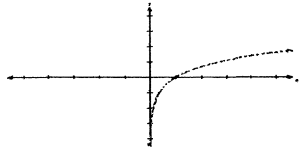
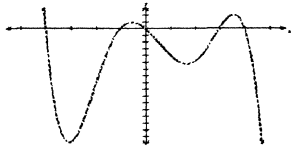
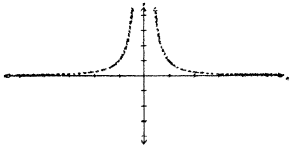
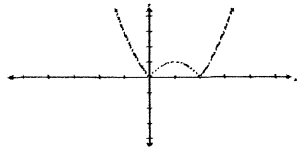
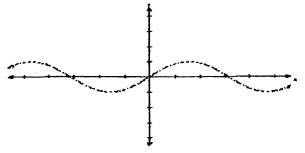
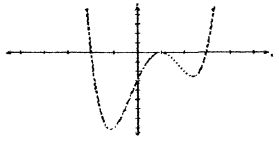
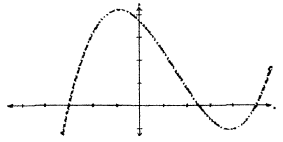
- Equation (E1—E10)
- Description (D1—D10)
- First Derivative Graph (dy/dx 1—dy/dx 10)
- Second Derivative Graph (d^2y/dx^2 1— d^2y/dx^2 10)

Complete the table to indicate the matches for the sets of cards given.

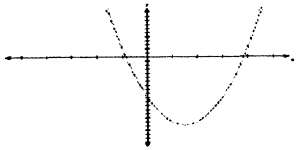
Function Graph	Equation	Description	First Derivative Graph	Second Derivative Graph
G1				
G2				
G3				
G4				
G5				
G6				
G7				
G8				
G9				
G10				

Equation E1 $f(x) = e^{-x^2}$	Equation E2 $f(x) = \ln(x)$
Equation E3 $f(x) = x^2$	Equation E4 $f(x) = \frac{1}{x^2}$
Equation E5 $f(x) = \frac{x(x^2-16)(x+1)(x-3)}{-3}$	Equation E6 $f(x) = \lvert x^2 - 2x \rvert$
Equation E7 $f(x) = \frac{(x-1)^2(x+2)(x-3)}{2}$	Equation E8 $f(x) = .5(x+3)(2x-5)(x-5)$
Equation E9 $f(x) = \sin(x)$	Equation E10 $f(x) = 2^{-x}$

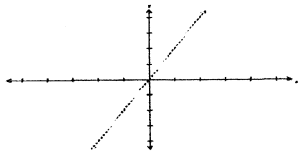
Description D1 The function is periodic with domain all real numbers and range [-1, 1].	Description D2 The graph of the function has three zeros, two relative minima and one relative maximum. It is differentiable everywhere.
Description D3 The graph of the function has one absolute minimum and no points of inflection.	Description D4 The graph of the function has three zeros, one maximum, one minimum, and one point of inflection.
Description D5 The graph of the function has one absolute maximum and the x-axis is an asymptote.	Description D6 The graph of the function is always increasing and has the y-axis as an asymptote.
Description D7 The graph of the function has two relative maxima and two relative minima.	Description D8 The graph of the function is always concave up and $\lim_{x \to -\infty} f(x) = +\infty$ *and* $\lim_{x \to +\infty} f(x) = 0$
Description D9 The graph of the function has one relative maximum and two relative minima.	Description D10 The graph of the function has the x-axis and y-axis as it horizontal and vertical asymptotes, respectively.

Function Graph G1 	Function Graph G2 
Function Graph G3 	Function Graph G4 
Function Graph G5 	Function Graph G6 
Function Graph G7 	Function Graph G8 
Function Graph G9 	Function Graph G10 

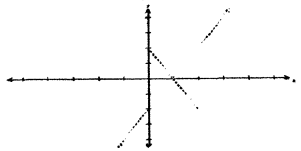
First Derivative Graph dy/dx 1



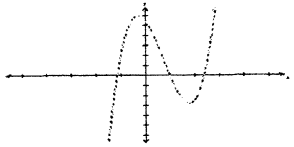
First Derivative Graph dy/dx 2



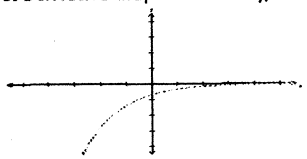
First Derivative Graph dy/dx 3



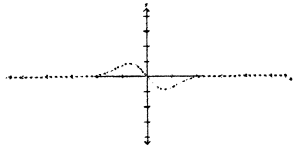
First Derivative Graph dy/dx 4



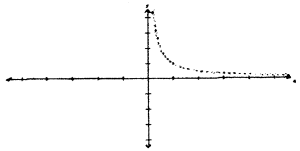
First Derivative Graph dy/dx 5



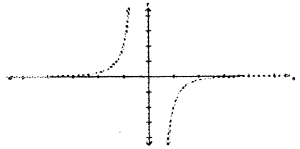
First Derivative Graph dy/dx 6



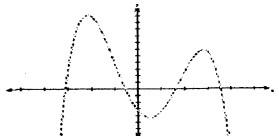
First Derivative Graph dy/dx 7



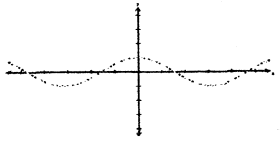
First Derivative Graph dy/dx 8



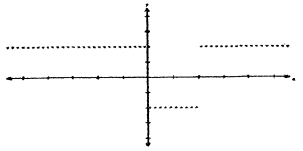
First Derivative Graph dy/dx 9



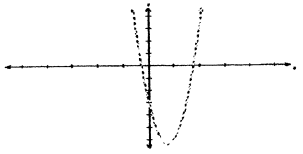
First Derivative Graph dy/dx 10



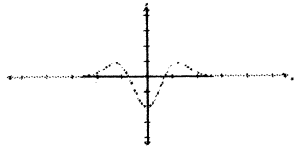
Second Derivative Graph d^2y/dx^2 1



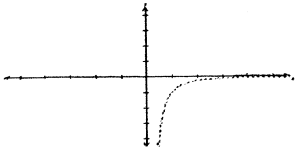
Second Derivative Graph d^2y/dx^2 2



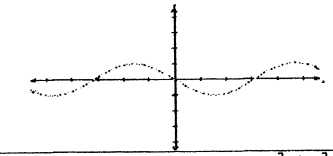
Second Derivative Graph d^2y/dx^2 3



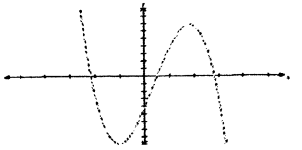
Second Derivative Graph d^2y/dx^2 4



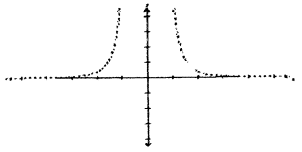
Second Derivative Graph d^2y/dx^2 5



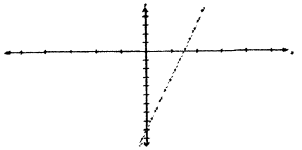
Second Derivative Graph d^2y/dx^2 6



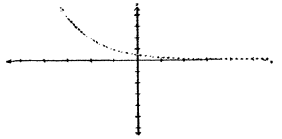
Second Derivative Graph d^2y/dx^2 7



Second Derivative Graph d^2y/dx^2 8



Second Derivative Graph d^2y/dx^2 9



Second Derivative Graph d^2y/dx^2 10