

➤ Find a piece of art (picture or painting) and have it printed or photocopied onto a 8.5×11 sheet of paper.

➤ State where you found your picture.

➤ Identify each of the following functions within your art.

○ Linear: recall the parent function is $y=x$

○ Quadratic: recall the parent function is $y=x^2$

○ Radical: recall the parent function is $y=\sqrt{x}$

○ Rational: recall the parent function is $y=\frac{1}{x}$

○ Exponential: recall the parent function is $y=b^x$

○ Sinusoidal: recall the parent function is $y=\sin x$ or $y=\cos x$

Feel free to identify additional functions. Your textbook includes several functions that we no longer cover in this course that would be appropriate. You are also welcome to investigate other sources.

➤ State the domain and range for the portion of the functions you identified within your art. If your functions have breaks in the picture, you must correctly represent these breaks in your domain and range.

➤ Use your knowledge of functions (transformations, key properties, etc.) to determine an equation for the functions you identified within your art.

○ Express your equation using function notation and x-y notation.

○ Remember not all the transformations apply to each of the functions (e.g., a quadratic does not have a horizontal scaling because it is incorporated into the vertical scaling).

○ The origin and scale on the graph must be the same for all functions.

The summative evaluation will be marked out of levels. To achieve a level 3 the summative must include one example of each of the functions studied with their corresponding domains and ranges. The transformations used with the functions must model (as best as possible) the curve on the piece of art within the domain and range you stated.

NAME: _____

Submit this page as the cover page of your assignment

Title of picture: _____

Artist: _____

Source (website or book): _____

Domain of your axis on the graph paper: _____

Range of your axis on the graph paper: _____

Type of function	Equation (function notation) $y = a f[k(x - p)] + q$	Parent function $f(x) = \dots$	Domain (for the portion you identified in the art) $D = \{\dots\}$	Range (for the portion you identified in the art) $R = \{\dots\}$
Linear				
Quadratic				
Square Root				
Rational				
Exponential				
Sinusoidal				