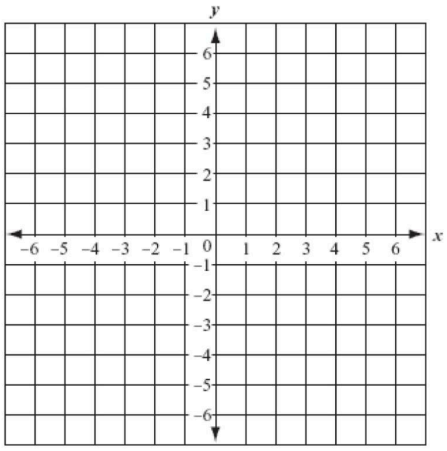
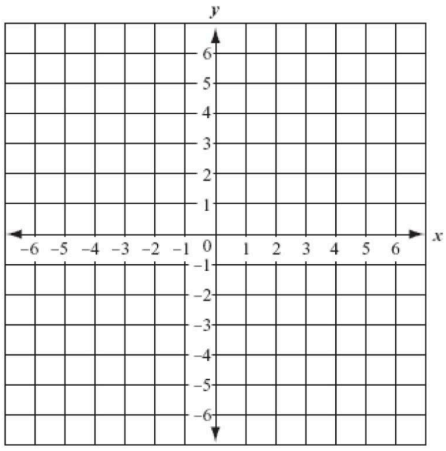
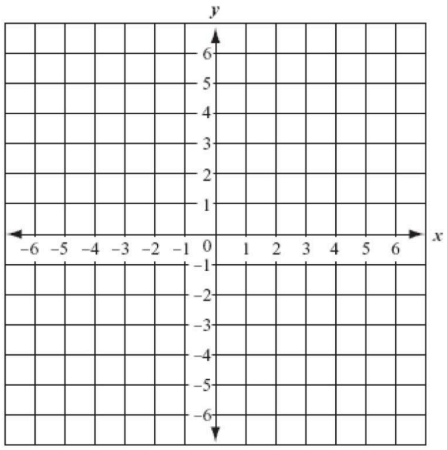
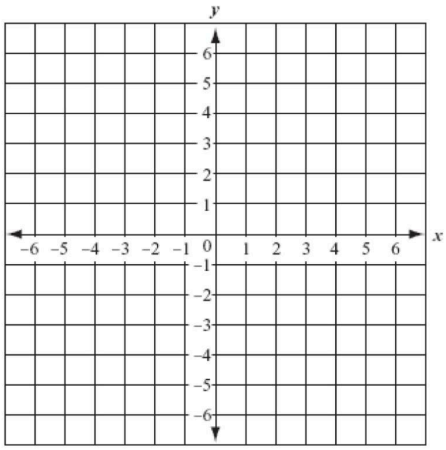
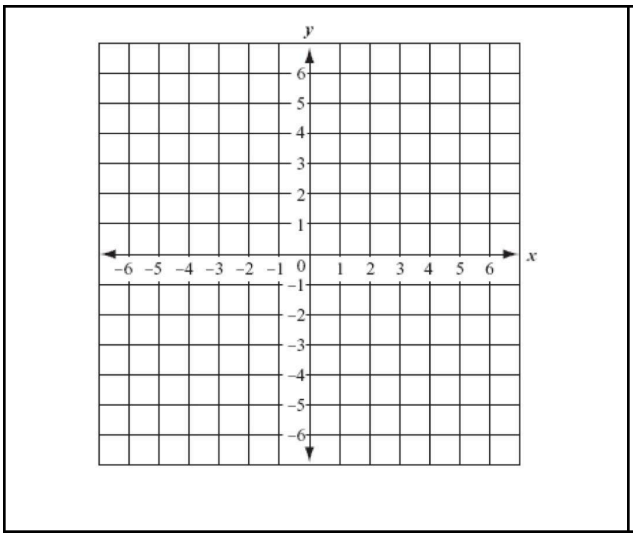
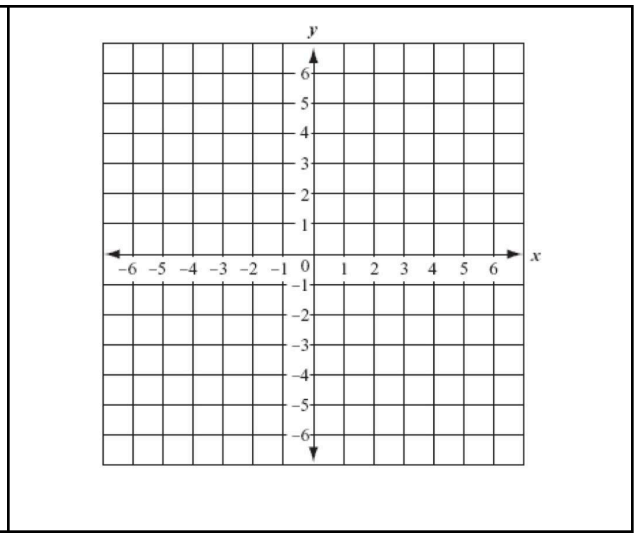
Each student should work on their own sheet of graph paper. Put your name, class period and the date on the top right corner. On one side of this sheet of graph paper with title “Parents Functions,” draw 6 separate x-y coordinate planes with axes labeled. Next label each x-y coordinate plane diagram with titles: Linear, Quadratic, Cubic, Absolute Value, Radical, Rational.

Example:

LINEAR 	QUADRATIC 
CUBIC 	ABSOLUTE VALUE 
RADICAL	RATIONAL





Now, as a pod, come up with each parent function symbolically. For instance, the parent linear function looks like this symbolically:

f(x) = x

Write this on the top right of each x-y coordinate plane.

Can you come up with symbols for the other functions? Make sure to get your functions checked by the teacher.

Next, sketch each one from memory (not using the calculator). If your memory doesn't serve you well, plot a few key points for the function and then extrapolate what the shape would be. Don't copy from your neighbors.

Why do you think they are called parent functions? (Write answer on the back of the sheet).

Next, based on the graph, determine the domain and range for each function. Remember, domain refers to all the x-values the function will take and range refers to all the y-values the function will take. Write them in interval notation and inequality notation. Get the pod and the teacher's help on this. We will come together as a class to share the domains and ranges.