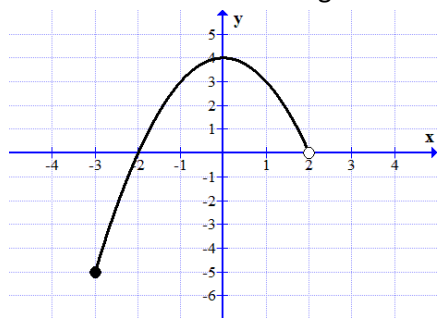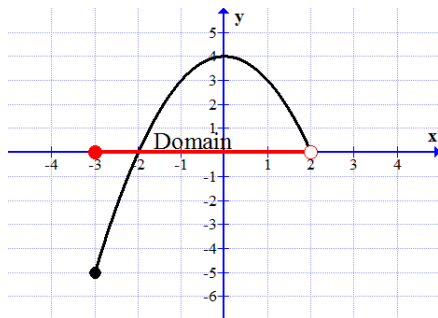Write the domain and range of the function using interval notation.

Solution

The domain of the function is the set of possible input values. Therefore, to determine the domain of the function from a graph, we must find the input values that are being used by the graph of the function. To do this, examine the graph from left to right looking for a point on the function for each x-value. For this function the horizontal extent of the graph, or x-values being used by the function would start at x=-3 and end at x=2. The closed point at x=-3 indicates that the function includes that input value where the opened point at x=2 indicates that the function does not include that value, but does include all values right up to that point. The domain of this function in interval notation would be $[-3,2)$.

The range of the function is the set of possible output values. Therefore, to determine the range of the function from a graph, we must find the output values that are being used by the graph of the function. To do this, examine the graph from bottom to top looking for any possible gaps in the graph of the function. For this function the vertical extent of the graph starts at y=-5 and continues without any gaps to y=4. Therefore, the range of this function in interval notation would be $[-5,4]$.