Some Basic GIS Operations

CLIPPING FEATURES
Use the clip operation when you want to cut out a piece of one theme using another theme as a "cookie cutter". For example, you might want to select a county boundary theme to extract the roads from a roads theme to create a new theme containing roads for a particular county.

MERGING FEATURES
Use the Merge process when you want to create a new theme containing two or more adjacent themes of the same shapefile type. For example, you may want to merge or append highway data delivered as a series of tiles. Merge allows you to append the data while maintaining the attributes contained in whichever shapefile you select.

UNIONING THEMES
Use the Union process when you want to produce a new theme containing the features and attributes of two polygon themes.

INTERSECTING THEMES
Use the Intersect process when you want to integrate two spatial data sets while preserving only those features falling within the spatial extent common to both themes.

BUFFERING GRAPHICS AND FEATURES
Buffering allows you to put boundary around a specified feature (point, line, or polygon) at a distance you specify. For example, buffering a point feature using a buffer distance of 300 meters would create a circle polygon with a radius of 300 meters, centered on the point.

QUERYING ATTRIBUTES
Any attribute or combination of attributes contained in the attribute table can be used to select features. For example, a polygon team contains an attribute giving the area of the polygon. You could use that attribute to find all polygons greater than 1200 square meters, or less than 52 square meters, etc.

USING MORE THAN ONE OPERATION
It’s possible to use more than one operation to develop the necessary new theme. For example, if you wanted to determine how many acres of crops are within 200 feet of a stream, you could buffer the stream by 200 feet. Use the resulting buffered theme to clip a crop theme of the area. The result will be a coverage showing the area within 200 feet of the stream from which you can calculate the acres of cropland.