Computing Centroids in ArcGIS (see Help/Making Field Calculations)

What’s a centroid?
- **Centroid**: a polygon’s mean center which is based on the weighted average of its x and y coordinates; a useful way to summarize the locations of a set of points, particularly when used for comparative analysis.

Computing centroids:
- Inspect the attribute table.
- If the attribute table does not already have a column for the ‘X’ and a column for the ‘Y’ coordinates, add these fields (type=double, precision=10, scale=3).
- The ‘X’ and ‘Y’ columns are initially populated with 0’s.
- Do the following for the ‘X’ column:
  - Right-click column.
  - Click *Calculate Values* (outside of an edit session).
  - Click *Advanced*.
  - In top text box type the following (or load the ‘CentroidsX_calc’ formula from the course web site; click ‘Load’ in the dialogue box):

    ```vba
    Dim pArea As IArea
    Set pArea = [Shape]
    DblX = pArea.Centroid.X
    ```

  - In the bottom text box type the following:

    ```vba
dblx
    ```

  - Click *OK*.

- Repeat for the ‘Y’ column, changing the X’s to Y’s (or load the ‘CentroidsY_calc’ formula).
- The calculations have assigned centroid values to the ‘X’ and ‘Y’ columns.
- In the attribute table, click *Options/Export*. Then list the path and type a name for a newly created table containing the centroids.
- In the table of contexts, click *Source* to display the centroids table.
- Click *Tools* (not ArcToolBox!)/AddXY Data, and specify the projection of the original data from which the centroids were derived. This will change the centroids dots from one to two dimensional.
  - Via *Symbology* for the centroids layer you can adjust the symbol size and color, including to one-dimensional black dots (e.g., smaller size may display better on map).