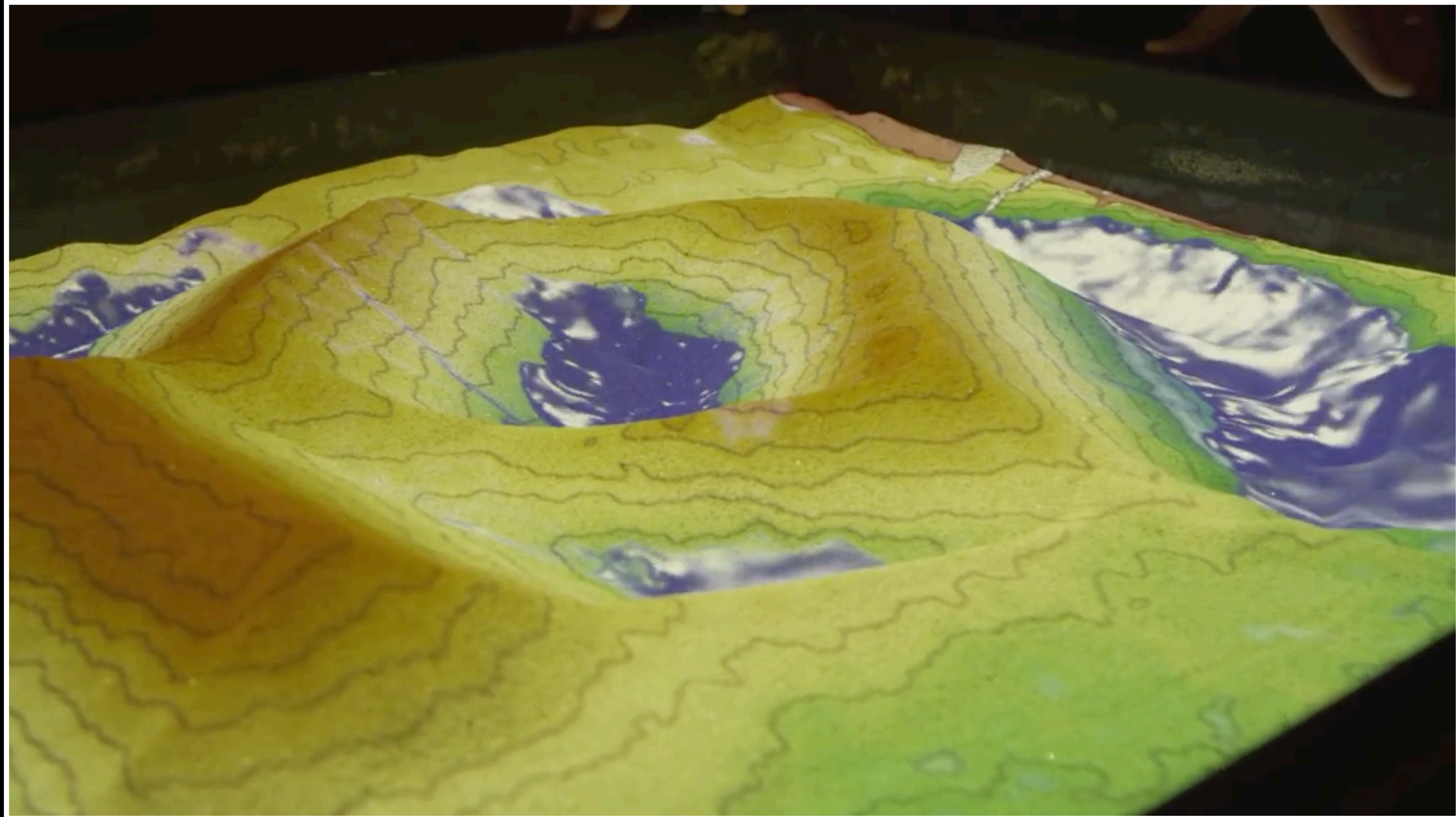


# Topographic Maps and Profiles

*How do topographic maps help us interpret our planet?*



Phenomenon: Topographic Maps and Profiles



# Topographic Maps and Profiles

- Topographic Maps [contour map] - commonly used model of the elevation field of the surface of Earth
  - Topographic maps show 3D shapes in 2D
- Elevation - height above or below sea level

# Topographic Maps and Profiles

- Benchmark - a marker that has the exact latitude, longitude, and elevation of that position
  - Labeled on a map as BM. X.

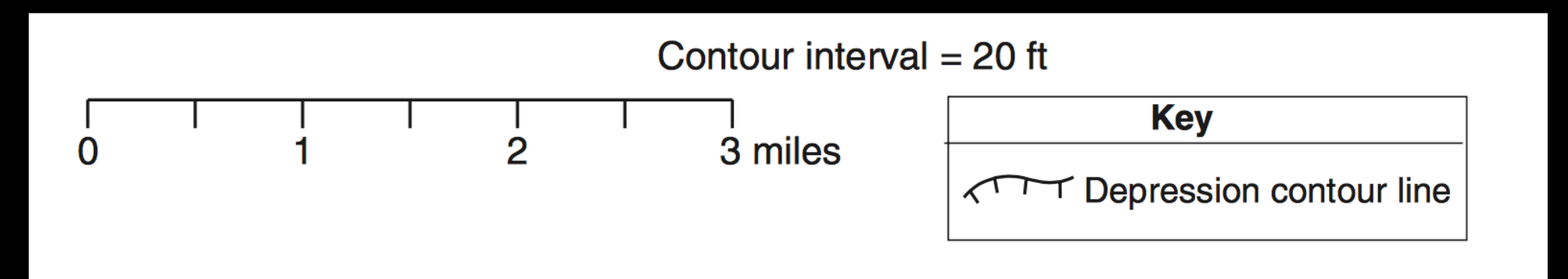
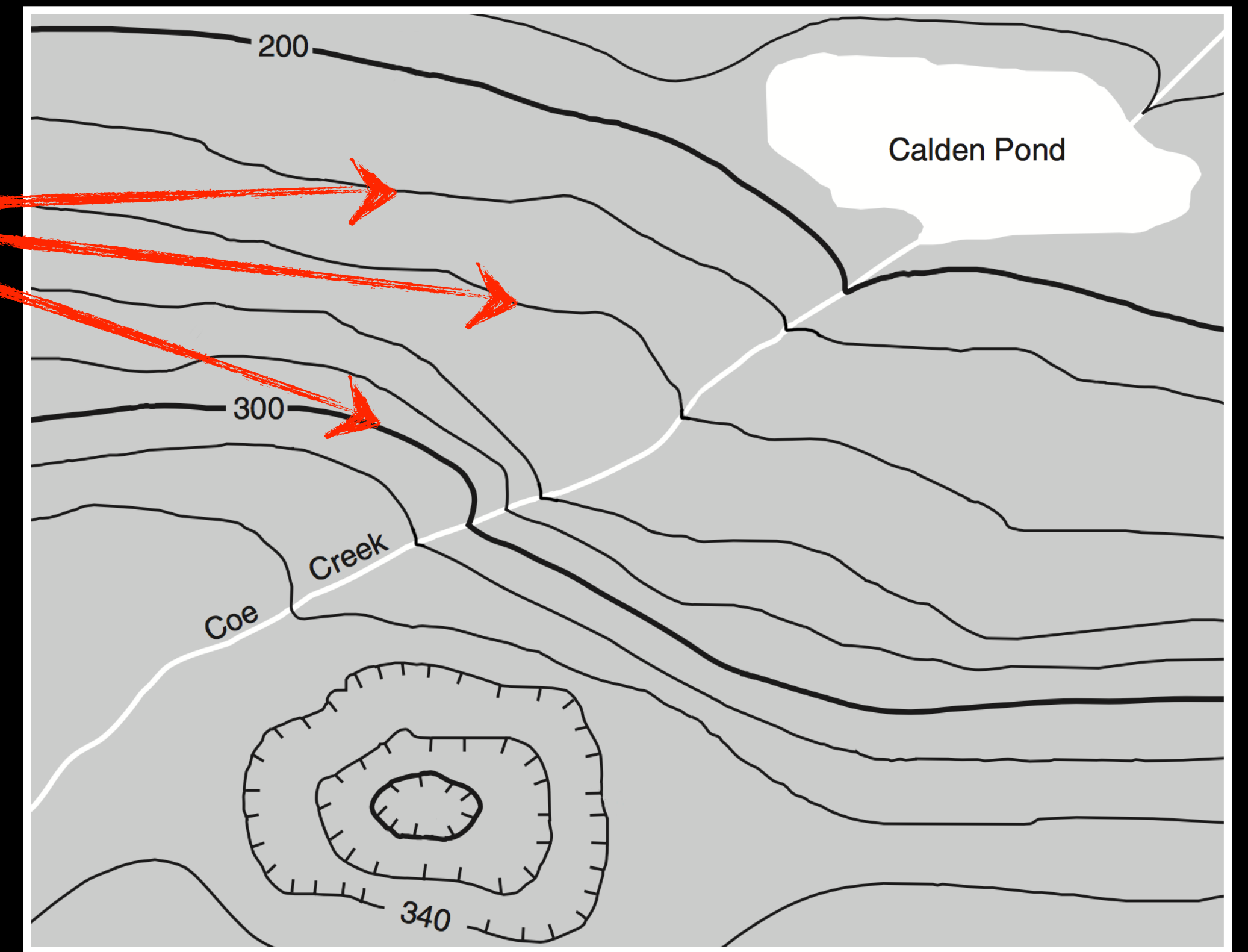


# Topographic Maps and Profiles

- Natural Features - features that are created by nature
  - Examples: mountains, hills, lakes, and rivers
- Cultural Features - features that are created by mankind
  - Examples: roads, cities, buildings and dams

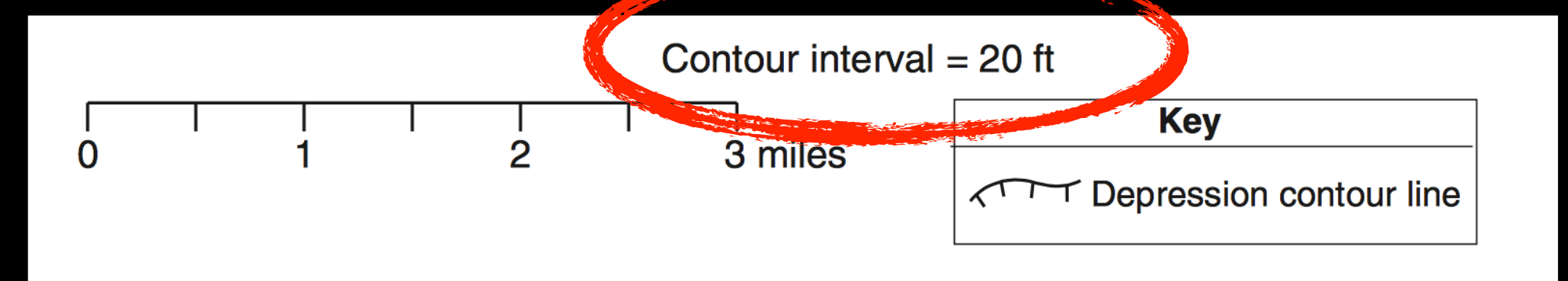
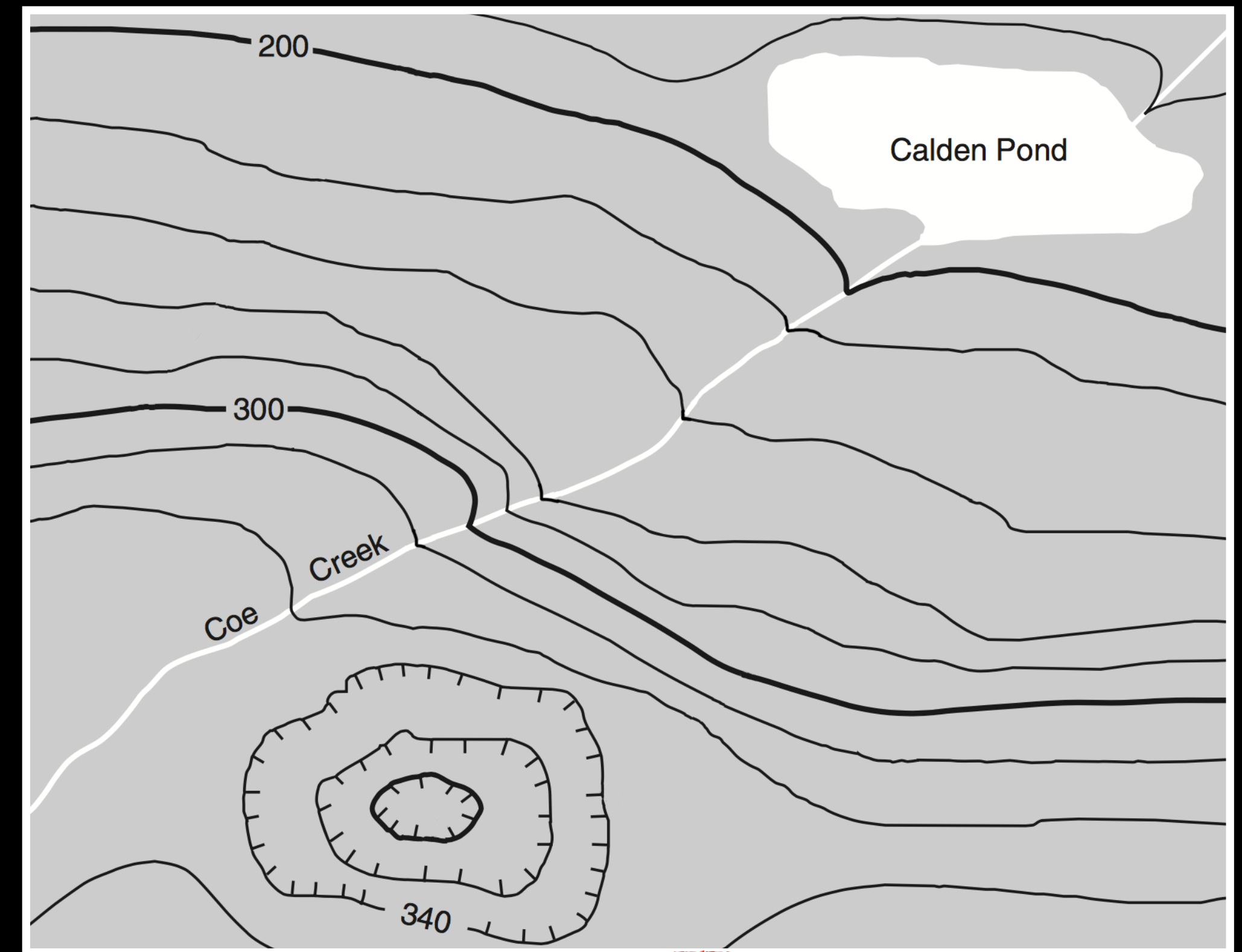
# Topographic Maps and Profiles

- Contour Lines - lines drawn on a map that connect equal points of elevation



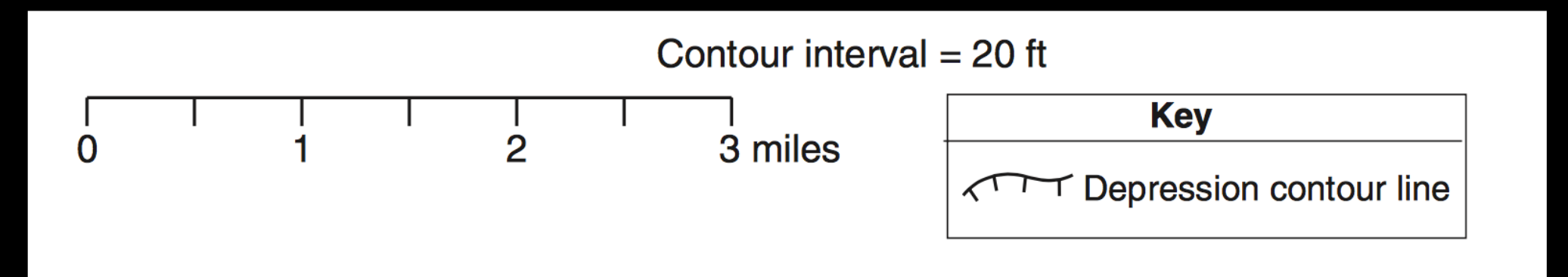
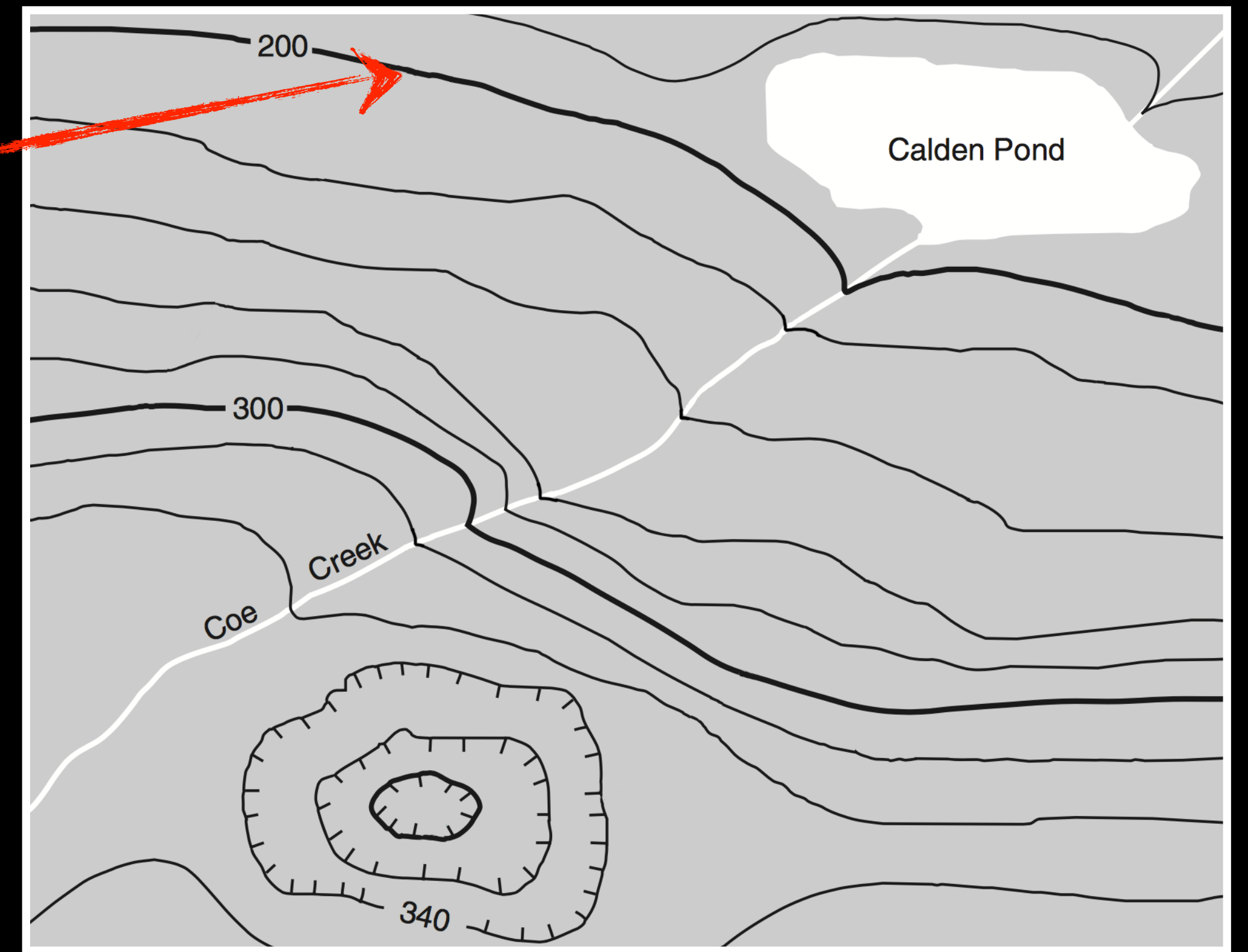
# Topographic Maps and Profiles

- Contour Interval - the difference in elevation between two side by side contour lines
  - The contour interval is usually found on the map key or legend



# Topographic Maps and Profiles

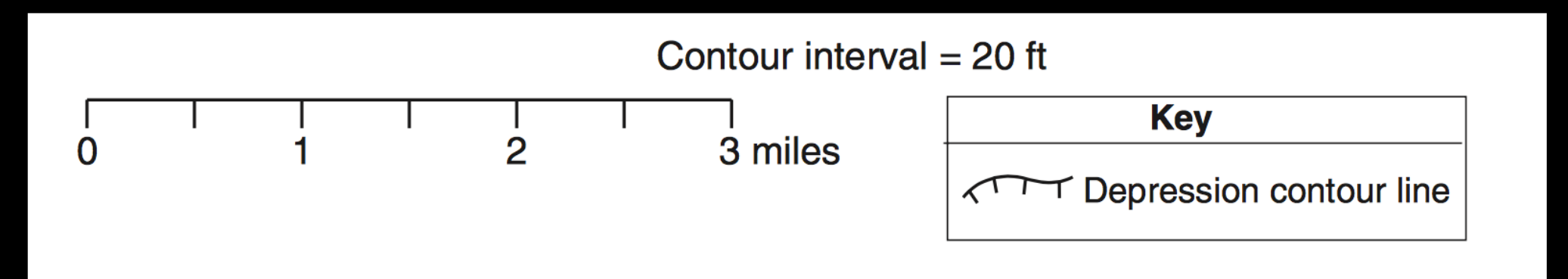
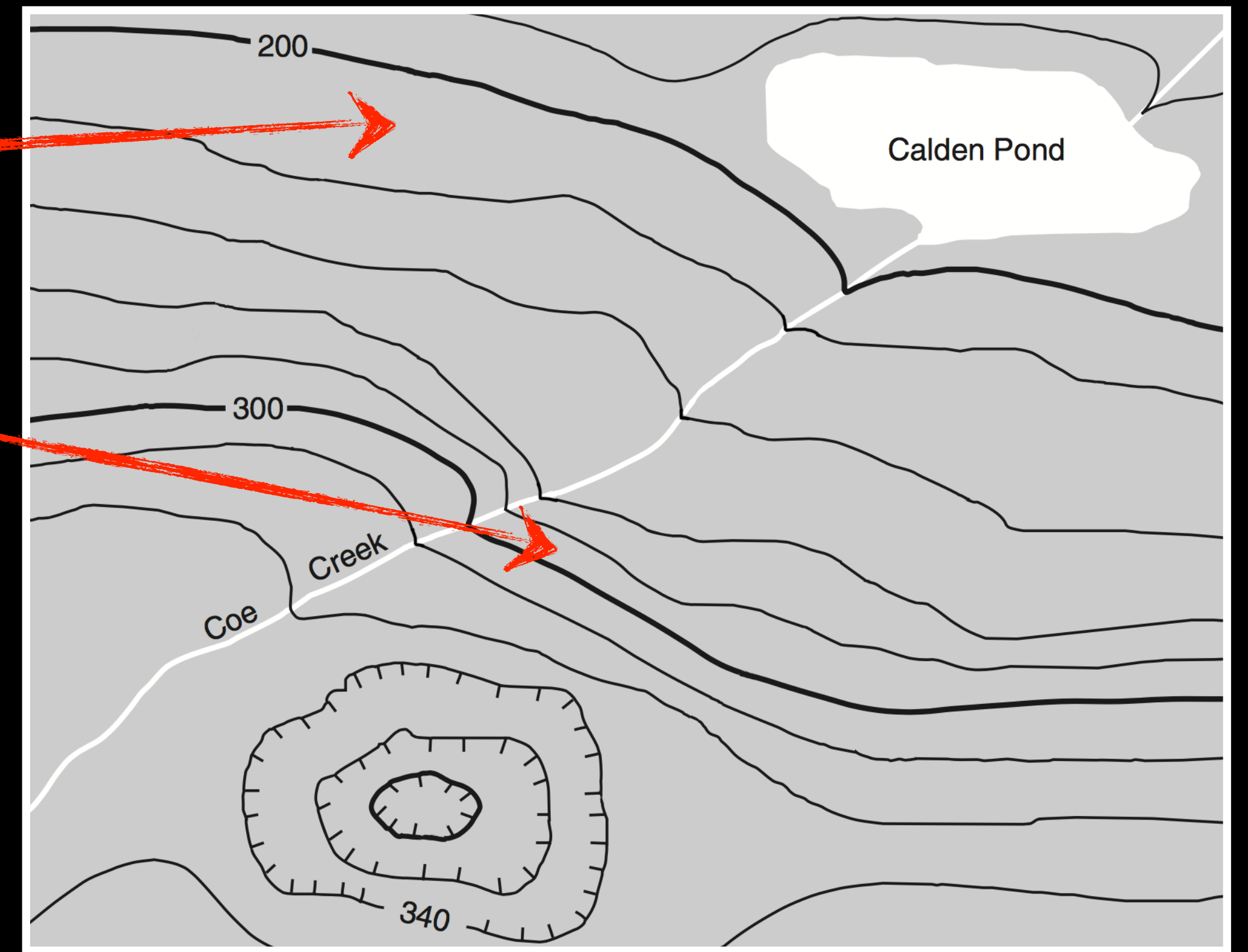
- Index Contour - lines that are bold and have an elevation labeled
  - Example: 200 ft and 300 ft





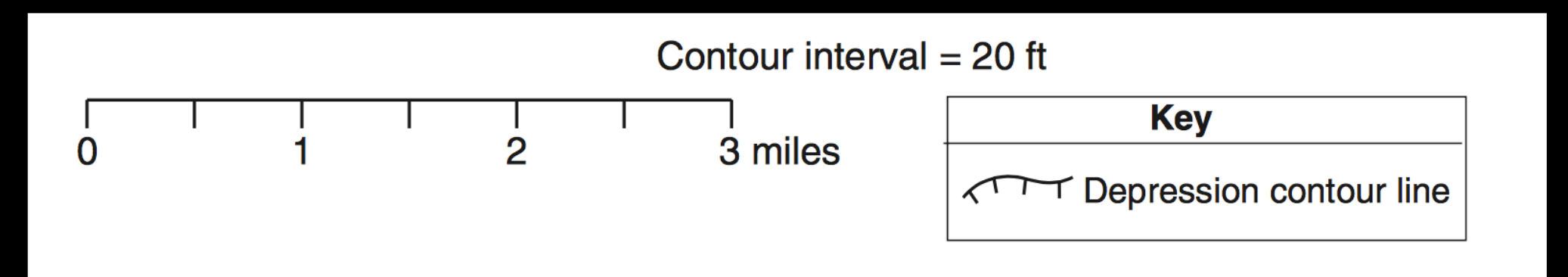
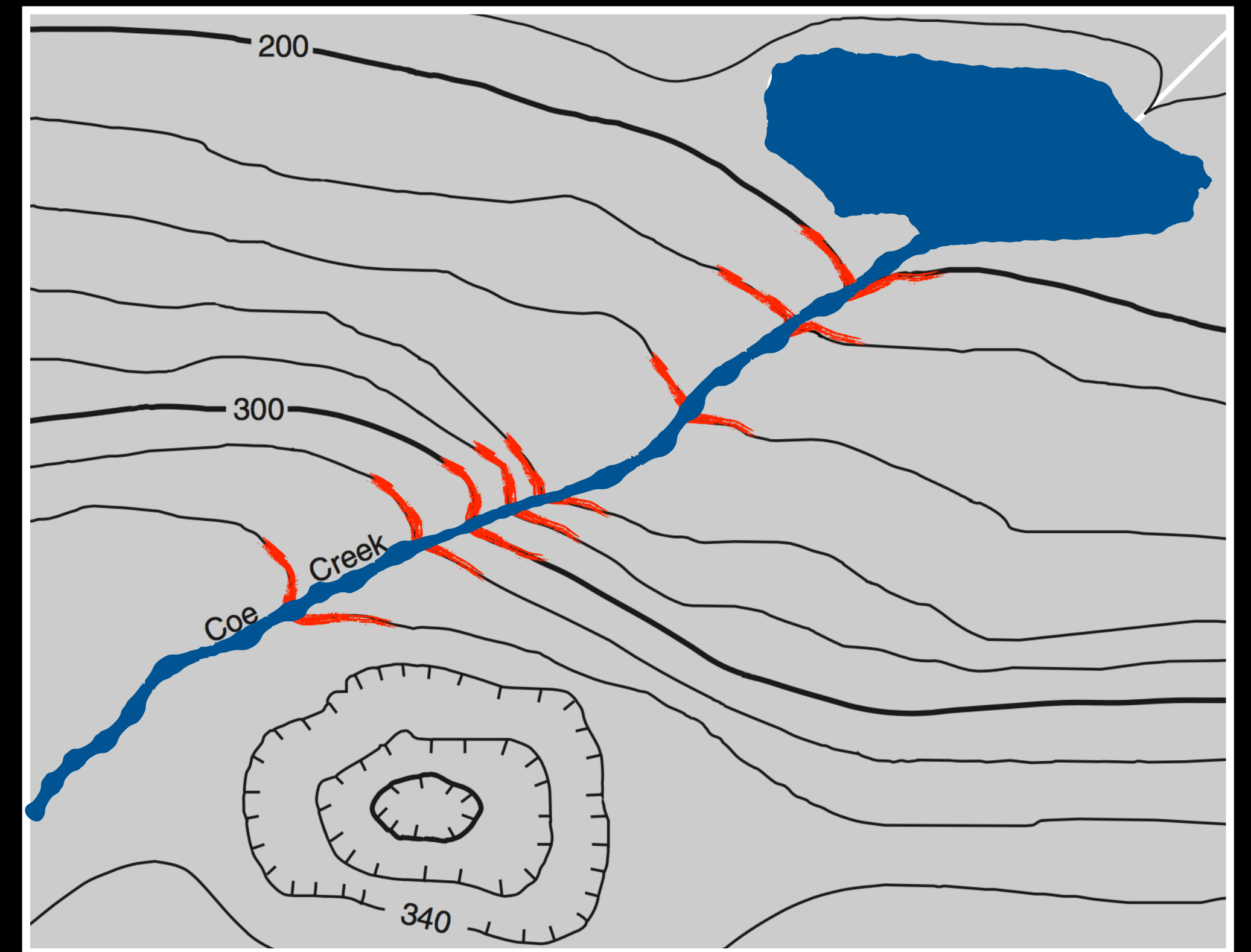
# Topographic Maps and Profiles

- Gentle Slope - when contour lines are spaced far apart
- Steep Slope - when contour lines are spaced close together



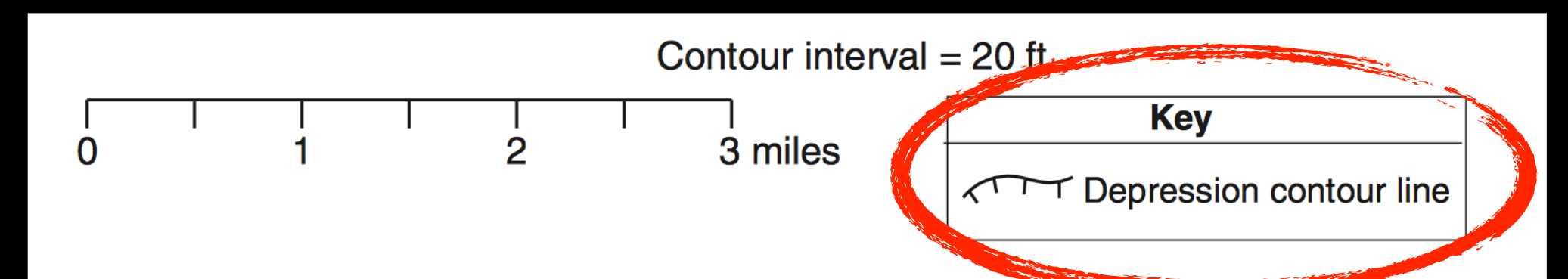
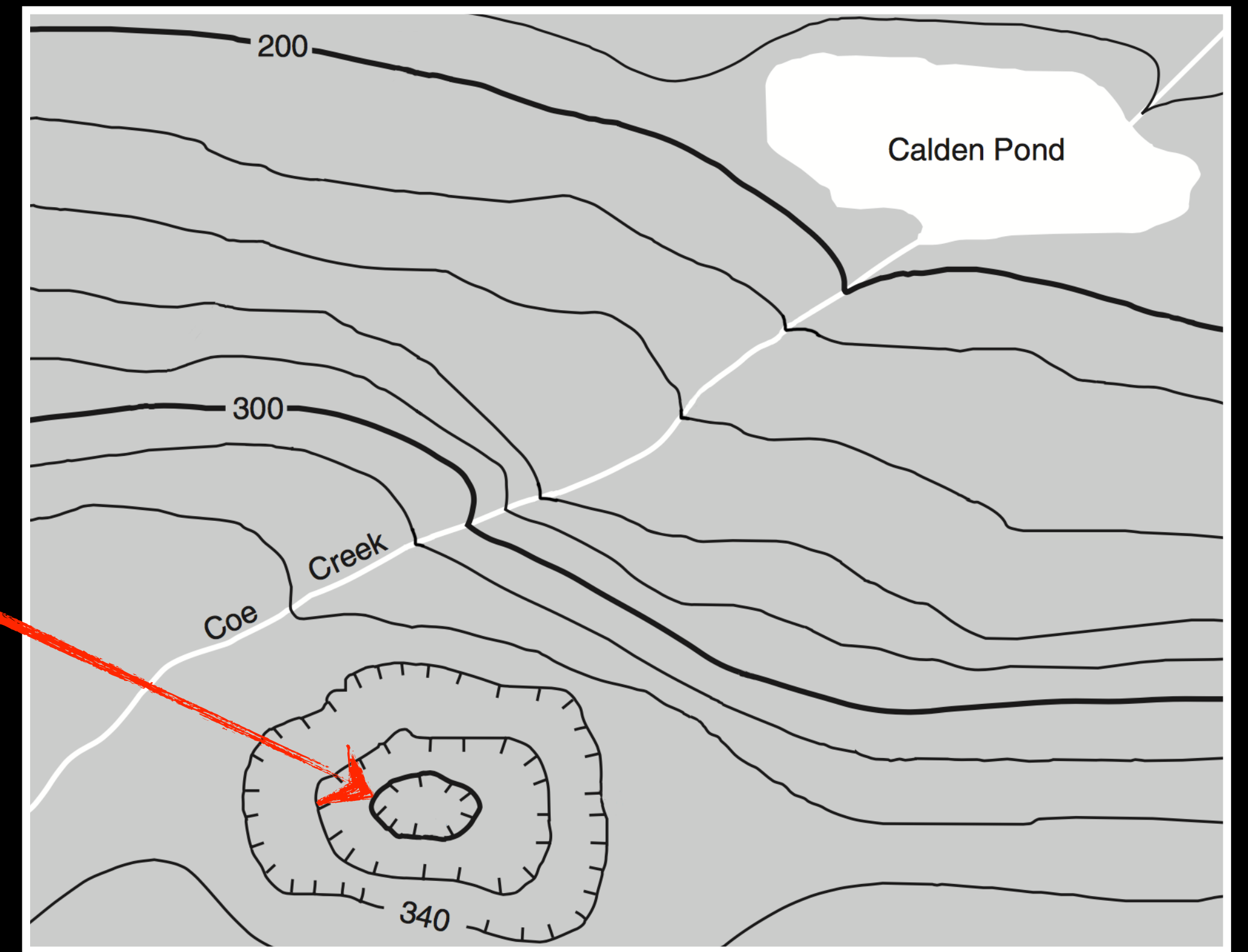
# Topographic Maps and Profiles

- When contour lines cross a river they bend upstream
  - Note: rivers flows the opposite direction the contour lines point



# Topographic Maps and Profiles

- Depression Contour Lines - are marked with small lines called hachured lines that are pointed toward the center of a depression
  - Allows you to distinguish a hill from a hole



# Topographic Maps and Profiles

- Calculating the Highest Point:
  1. Finding the last [highest] contour line on that hill
  2. Imagine you drew another line
  3. Subtract one from the imaginary line

# Topographic Maps and Profiles

- Topographic Profile - the side view of a geologic feature



# Topographic Maps and Profiles

Creating a Topographic Profile:

1. You need two points on a contour map and a horizontal grid between the two points
2. Transfer the points from the map to the horizontal grid
3. Connect the points with a smooth line to draw the profile



How to Read a Topographic Map



[earthtoleigh.com](http://earthtoleigh.com)