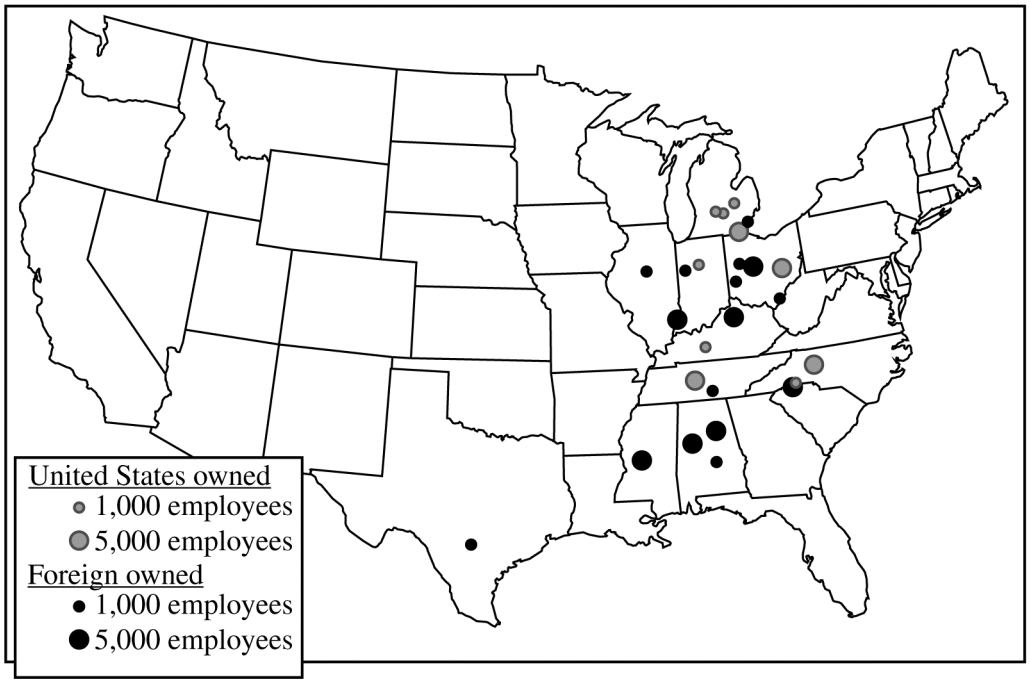
2. In 1798 Thomas Robert Malthus published *An Essay on the Principle of Population* in which he argued that population growth will inevitably outpace food production, resulting in widespread famine.

   A. Identify and explain TWO reasons why some geographers today believe Malthus' theory can be used to predict future population issues.

   B. Identify and explain TWO reasons why some geographers today believe Malthus' theory cannot be used to predict future population issues.

AUTOMOBILE FACTORIES BUILT IN THE UNITED STATES BEFORE 1986

AUTOMOBILE FACTORIES BUILT IN THE UNITED STATES BETWEEN 1986 AND 2006



3. Industrial location models are used to explain geographic patterns of economic activity. The maps above show automobile factories built before and after 1986 in the United States.

   A. Identify TWO changes in the geography of automobile factory construction shown by the maps.

   B. Identify and explain TWO factors related to industrial location that may have contributed to the changes.

GO ON TO THE NEXT PAGE.

AP® HUMAN GEOGRAPHY
2011 SCORING GUIDELINES

Question 2

In 1798 Thomas Robert Malthus published *An Essay on the Principle of Population* in which he argued that population growth will inevitably outpace food production, resulting in widespread famine.

Part A (4 points: 1 point for each reason identified [ID] and 1 explanation point per ID)

Identify and explain TWO reasons why some geographers today believe Malthus' theory can be used to predict future population issues.

ID: Population has been rising quickly. **OR**
Population has generally grown as predicted by Malthus.

Explanation

- Limited use of contraception.
- Political policies, economic decisions, cultural beliefs that support population growth.
- Demographic transition model, referring to Stage 2 and/or early Stage 3.

ID: Food supply has increased, but it has not kept up with population increase. **OR**
Food supply has generally grown as predicted by Malthus.

Explanation

- Failure to adopt agricultural innovation, owing to political policies, economic decisions, cultural beliefs.
- Conversion of farmland for urban use.
- Environmental degradation such as desertification, overgrazing, clear cutting, soil erosion, unavailability of fresh water.
- Conversion of life-supporting crops to cash crops (tobacco, sugar, cotton, tea, coffee).
- Rising fuel costs will slow down growth of food production and distribution.
- Climate change will decrease production.

ID: There are other limiting factors on population in addition to food.

Explanation

- Because of resource overuse and/or environmental degradation, we are in danger of exceeding the carrying capacity (clean air, fossil fuel, water, and other resources).

AP® HUMAN GEOGRAPHY
2011 SCORING GUIDELINES

Question 2 (continued)

Part B (4 points: 1 point for each reason identified [ID] and 1 explanation point per ID)

Identify and explain TWO reasons why some geographers today believe Malthus' theory cannot be used to predict future population issues.

ID: Population growth has not been rising geometrically/exponentially. **OR**
Population has generally not grown as predicted by Malthus.

Explanation

- Expanded use of contraception.
- Political policies, economic decisions, cultural beliefs that limit population growth.
- Demographic transition model, referring to late Stages 3, 4, and/or 5 (declining birth rate).

ID: Food supply has grown faster than predicted by Malthus. **OR**
Carrying capacity has expanded.

Explanation

- New technologies, such as: mechanization, factory farming, industrial agriculture, agribusiness, use of chemicals, irrigation, GPS.
- Greater efficiencies, such as: larger farms, consolidation of farms, mechanization, multicropping.
- Green Revolution, genetically modified crops, multicropping, improved seeds, high-yielding cultivars.
- Expansion of agricultural lands.
- Human ability to create new techniques.

ID: Our ability to preserve food and/or distribute food to areas of need is much greater than during Malthus' time.

Explanation

- Improvements in any and all methods of transportation (highways, containerization, refrigerated trucks).
- Improvements in food preservation (refrigeration, packing, processed food).