

Week 1

AP Human Geography

Homework bundle for this week

本周作业合集

exercises.lol

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AP Human Geography

Name: _____ Score: _____

1. A map that shades each country by its literacy rate is a...
 - ☐ reference map
 - ☐ thematic map
 - ☐ political map
 - ☐ road map
2. The technology that layers many kinds of spatial data to compare patterns is...
 - ☐ GPS
 - ☐ GIS
 - ☐ radar
 - ☐ sonar
3. A government most likely uses census data to...
 - ☐ set stock prices
 - ☐ decide where to build schools and hospitals
 - ☐ predict the weather
 - ☐ design video games
4. "Two hours by train from the city" is an example of...
 - ☐ absolute location
 - ☐ relative distance
 - ☐ latitude
 - ☐ a projection
5. Possibilism argues that the environment...
 - ☐ fully decides how a culture develops
 - ☐ sets limits, but people choose how to respond
 - ☐ has no effect on people at all
 - ☐ only matters in cold climates
6. It is possible to draw a flat map with no distortion at all.
 - ☐ True ☐ False

7. GPS is used mainly to find an exact location on Earth.

☐ True ☐ False

8. Because a map uses real numbers, it is always neutral and cannot mislead.

☐ True ☐ False

9. Distance decay means places interact **more** the farther apart they are.

☐ True ☐ False

10. Environmental determinism is the modern, accepted view in geography.

☐ True ☐ False

AP Human Geography

1. **thematic map**

It shows how one **variable** (literacy) varies across space — a **thematic map**.

2. **GIS**

GIS (Geographic Information System) layers spatial data so relationships appear.

3. **decide where to build schools and hospitals**

Census data on where people live guides public services like schools, hospitals, and roads.

4. **relative distance**

Measured in **time**, not km — that is relative distance.

5. **sets limits, but people choose how to respond**

Possibilism: the environment limits options, but human choice and technology decide the outcome.

6. **False**

Flattening a sphere always distorts shape, area, distance, or direction — you can never keep all four.

7. **True**

GPS uses satellites to pinpoint location; GIS is for analysis and remote sensing is for data capture.

8. **False**

The categories chosen and the way a map is coloured or scaled can change the message — even with real data.

9. **False**

Distance decay is the opposite: interaction **weakens** as distance grows.

10. **False**

It is **rejected**; possibilism is the accepted view.

1.1 Introduction to Maps

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS map 地图 • distort 扭曲 • projection 投影 • thematic map 专题地图 • reference map 参考地图

Objective

Build the skills to answer exam questions on **maps** 地图 and **map projections** 地图投影.

You must be able to:

- distinguish a **reference map** 参考地图 from a **thematic map** 专题地图
- explain why every **projection** 投影 distorts shape, area, distance, or direction
- match a projection (Mercator, Gall-Peters, Robinson) to its main distortion
- read **map scale** 比例尺 and say what a large- vs small-scale map shows

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Reference vs thematic maps

A **reference map** shows locations — borders, cities, roads. A **thematic map** shows the spatial pattern of one variable, such as population density or climate.

■ Why projections distort

The Earth is a sphere; a map is flat. Flattening it always distorts at least one of **shape, area, distance, or direction**. No projection preserves all four.

■ Matching projection to distortion

Mercator keeps direction/shape but greatly exaggerates area near the poles. **Gall-Peters** keeps area true but distorts shape. **Robinson** is a compromise, distorting each a little.

2 Practice

2.1 State one difference between a reference map and a thematic map. [2]

2.2 Explain why a flat map of the whole world must distort the Earth. [2]

2.3 The Mercator projection is common in classrooms and online maps.

(a) State the property the Mercator projection preserves. [1]

(b) State the main distortion it introduces. [1]

3 Exam-style questions

3.1 A map showing the percentage of each country's population that is urban is best described as a [1]

- **A** reference map
- **B** thematic map
- **C** political map
- **D** topographic map

3.2 A geographer needs true compass bearings for ocean navigation. The best projection is [1]

- **A** Gall-Peters (equal-area)
- **B** Mercator (conformal)
- **C** an equal-area interrupted map
- **D** a cartogram

3.3 A city planner uses a street map of one neighbourhood; a student uses a map of the whole world.

(a) Which map is larger scale? [1]

(b) State one thing the larger-scale map shows that the smaller-scale map cannot. [1]

Solutions

2.1 a reference map shows locations/features; a thematic map shows the pattern of one variable.

2.2 the Earth is a sphere and a map is flat; flattening a curved surface must distort shape, area, distance, or direction.

2.3 (a) direction / true shape locally. (b) it exaggerates area toward the poles (e.g. Greenland looks huge).

3.1 B. it maps the spatial pattern of one variable, so it is a thematic map.

3.2 B. Mercator preserves direction, which is why it was designed for navigation.

3.3 (a) the neighbourhood street map. (b) fine local detail — individual streets/buildings.

1.2 Geographic Data

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS census 人口普查 • geographic data 地理数据 • gis 地理信息系统 • qualitative 定性
• quantitative 定量

Objective

Build the skills to answer exam questions on **geographic data** 地理数据 and how it is gathered.

You must be able to:

- distinguish **quantitative** 定量 from **qualitative** 定性 geographic data
- identify sources: **GIS** 地理信息系统, **GPS** 全球定位系统, **remote sensing** 遥感, **census** 人口普查, fieldwork
- explain what each source is good for
- recognise that all geographic data is tied to a **location** 位置

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Quantitative vs qualitative

Quantitative data are numbers (a census count, rainfall in mm). **Qualitative** data are descriptions (an interview, a field sketch, a photograph).

■ Key data sources

GPS gives precise location; **remote sensing**/satellites image large areas; **GIS** layers and analyses spatial data; a **census** counts a population; **fieldwork** gathers local first-hand data.

■ All data is spatial

Geographic data always answers *where* as well as *what* — every observation is tied to a location, which is what lets it be mapped and analysed.

2 Practice

2.1 Define quantitative geographic data and give one example. [2]

2.2 State what remote sensing is and one thing it is useful for. [2]

2.3 A government wants to plan services for a growing city.

(a) Name the data source that counts the whole population. [1]

(b) Name the system used to layer and analyse that data spatially. [1]

3 Exam-style questions

3.1 Interviews with residents about how safe they feel in a park are an example of [1]

- **A** quantitative data
- **B** qualitative data
- **C** remote-sensing data
- **D** census data

3.2 A phone that records the exact coordinates of a photo is using [1]

- **A** GIS
- **B** GPS
- **C** a census
- **D** a cartogram

3.3 Modern geographers combine many data layers.

(a) State one advantage of GIS over a single paper map. [1]

(b) State one limitation of relying only on satellite data. [1]

Solutions

2.1 numerical data; e.g. a census population count or rainfall total.

2.2 gathering data from a distance, e.g. by satellite/aircraft; useful for imaging large or hard-to-reach areas, land-cover change.

2.3 (a) the census. (b) GIS — a geographic information system.

3.1 B. descriptions/opinions from interviews are qualitative data.

3.2 B. GPS supplies precise location coordinates.

3.3 (a) it can overlay/analyse many variables and update quickly. (b) it may miss local, on-the-ground detail or people's views.

1.3 The Power of Geographic Data

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS geospatial data 地理空间数据 • privacy 隐私 • map 地图 • region 区域 • distance decay 距离衰减

Objective

Build the skills to answer exam questions on how **geospatial data** 地理空间数据 is used in decisions.

You must be able to:

- explain how individuals use geospatial data (navigation, choosing services)
- explain how businesses use it (siting stores, targeting markets)
- explain how governments use it (planning, policy, emergency response)
- recognise concerns such as **privacy** 隐私

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Individuals

People use geospatial data to navigate, find the nearest service, or check travel time — everyday decisions guided by location data.

■ Businesses

A firm uses geospatial data to decide *where* to open a store — mapping customers, competitors, and transport to pick a profitable site.

■ Governments

Governments use it to plan land use, route emergency services, target investment, and set policy — decisions that shape whole regions.

2 Practice

2.1 Give one way an individual uses geospatial data in daily life. [1]

2.2 Explain how a business could use geospatial data to choose a store location. [2]

2.3 A city government collects location data from many sources.

(a) State one way the government could use this data. [1]

(b) State one concern raised by collecting location data on people. [1]

3 Exam-style questions

3.1 A retail chain maps household incomes and traffic before opening a shop. This is [1]

- **A** environmental determinism
 - **B** a use of geospatial data for a business decision
 - **C** a map projection
 - **D** a formal region
-

3.2 A common concern about the spread of geospatial data about individuals is [1]

- **A** distortion of area
 - **B** loss of privacy
 - **C** map scale
 - **D** distance decay
-

3.3 After a flood, an emergency team uses live geospatial data.

(a) State one decision the data helps them make. [1]

(b) Explain why up-to-date data matters more than an old map here. [1]

Solutions

2.1 navigation / finding the nearest shop, hospital, restaurant, etc..

2.2 map where its customers and competitors are; pick a site near demand and transport, away from rivals.

2.3 (a) plan services/transport, respond to emergencies, target investment. (b) privacy / surveillance / misuse of personal location data.

3.1 B. it uses geospatial data to guide a business siting decision.

3.2 B. collecting personal location data raises privacy concerns.

3.3 (a) where to send help / which routes are open / who to evacuate. (b) conditions change fast in a disaster, so current data guides safe, effective response.

1.4 Spatial Concepts

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS distance decay 距离衰减 • relative location 相对位置 • time-space compression 时空压缩
• place 地方 • clustered 聚集

Objective

Build the skills to answer exam questions on **spatial concepts** 空间概念 like location, distance, and pattern.

You must be able to:

- distinguish **absolute location** 绝对位置 from **relative location** 相对位置
- explain **distance decay** 距离衰减 and **time-space compression** 时空压缩
- describe **distribution** 分布 using density, concentration, and pattern
- define **place** 地方 and its meaning

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Absolute vs relative location

Absolute location is exact coordinates (40°N, 74°W). **Relative location** describes a place by its position to others ('south of the river, near the station').

■ Distance decay and time-space compression

Distance decay: interaction weakens as distance grows. **Time-space compression**: technology (planes, internet) makes far places feel closer, weakening distance decay.

■ Describing distribution

Density = how many per unit area; **concentration** = clustered or dispersed; **pattern** = the arrangement (linear, random, grid).

2 Practice

2.1 State the difference between absolute and relative location. [2]

2.2 Explain what distance decay means. [2]

2.3 A shop has many customers nearby and very few far away.

(a) Name the concept this illustrates. [1]

(b) State how cheap fast delivery could weaken this effect. [1]

3 Exam-style questions

3.1 Describing a town as 'two hours north of the capital' gives its [1]

- **A** absolute location
- **B** relative location
- **C** density
- **D** projection

3.2 Video calls letting teams in different countries work together in real time is an example of [1]

- **A** distance decay
- **B** time-space compression
- **C** environmental determinism
- **D** a functional region

3.3 Houses in one area are evenly spaced in a grid; in another they are tightly clustered.

(a) Which term describes the grid arrangement — density, concentration, or pattern? [1]

(b) Describe the concentration of the clustered houses.

[1]

Solutions

2.1 absolute = exact coordinates/address; relative = position described in relation to other places.

2.2 the interaction between two places decreases as the distance between them increases.

2.3 (a) distance decay. (b) it shrinks the effect of distance (time-space compression), so distant customers still buy.

3.1 B. position relative to another place is relative location.

3.2 B. technology shrinking the effect of distance is time-space compression.

3.3 (a) pattern. (b) clustered / concentrated (rather than dispersed).

1.5 Human-Environmental Interaction

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS possibilism 或然论 • sustainability 可持续性 • environmental determinism 环境决定论
• natural resources 自然资源 • human-environment interaction 人地关系

Objective

Build the skills to answer exam questions on **human-environment interaction** 人地关系.

You must be able to:

- distinguish **environmental determinism** 环境决定论 from **possibilism** 或然论
- explain why possibilism is now the accepted view
- define **sustainability** 可持续性 and **natural resources** 自然资源
- give examples of people modifying their environment

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Determinism vs possibilism

Environmental determinism claims the physical environment *decides* how a society develops. **Possibilism** says the environment sets limits and offers options, but people *choose* how to respond.

■ Why possibilism won

Determinism was used to justify false, biased claims. Possibilism fits the evidence: societies in similar environments develop very differently, using technology to overcome limits.

■ Sustainability

Sustainability means meeting present needs without stopping future generations from meeting theirs — using **natural resources** so they are not used up or ruined.

2 Practice

2.1 State the main idea of possibilism. [2]

2.2 Define sustainability. [2]

2.3 A society builds irrigation to farm a dry region.

(a) Does this support determinism or possibilism? Explain. [2]

3 Exam-style questions

3.1 The now-rejected idea that climate determines whether a society will succeed is [1]

- **A** possibilism
- **B** environmental determinism
- **C** sustainability
- **D** distance decay

3.2 Using a fishery only as fast as fish can reproduce is an example of [1]

- **A** environmental determinism
- **B** sustainable resource use
- **C** time-space compression
- **D** a perceptual region

3.3 Two societies live in similar mountain environments but develop very differently.

(a) Which theory does this best support? [1]

(b) Explain your choice. [1]

Solutions

2.1 the environment sets limits/offers possibilities; people choose how to respond, aided by culture and technology.

2.2 meeting present needs without preventing future generations from meeting theirs.

2.3 (a) possibilism — people used technology to overcome an environmental limit rather than being controlled by it.

3.1 B. that the environment determines development is environmental determinism.

3.2 B. using a resource without depleting it is sustainability.

3.3 (a) possibilism. (b) the same environment led to different outcomes, so people's choices — not the environment alone — shaped development.

1.6 Scales of Analysis

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS national 国家 • scale of analysis 分析尺度 • global 全球 • region 区域 • local 地方

Objective

Build the skills to answer exam questions on **scales of analysis** 分析尺度.

You must be able to:

- list scales of analysis: **global** 全球, **regional** 区域, **national** 国家, **local** 地方
- explain how the scale chosen changes what a pattern shows
- distinguish scale of analysis from map scale
- explain how **aggregation** 聚合 of data hides local variation

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Scales of analysis

Data can be studied at **global, regional, national, or local** scale. The scale you choose changes the conclusions you can draw.

■ Scale changes the story

A country may look wealthy at the **national** scale, yet at the **local** scale hide poor neighbourhoods. Zooming in reveals variation the national average hides.

■ Scale of analysis vs map scale

Scale of analysis = the level (local...global) you study data at. **Map scale** = the ratio of map distance to real distance. They are different ideas.

2 Practice

2.1 List the four common scales of analysis from smallest to largest. [2]

2.2 Explain how national-scale data can hide a local pattern. [2]

2.3 A map shows average income by country.

(a) State the scale of analysis. [1]

(b) State one thing this scale cannot show. [1]

3 Exam-style questions

3.1 Studying voting results street by street in one town uses a [1]

- **A** global scale
 - **B** local scale
 - **C** national scale
 - **D** map projection
-

3.2 Combining many small areas into one large-area statistic is called [1]

- **A** aggregation
 - **B** diffusion
 - **C** distance decay
 - **D** projection
-

3.3 A country's literacy rate is 95%.

(a) What scale of analysis is this figure? [1]

(b) Explain why a regional government might still find low-literacy areas. [1]

Solutions

2.1 local, national, regional, global.

2.2 a national average combines everyone; it can mask rich and poor areas that only appear at the local scale.

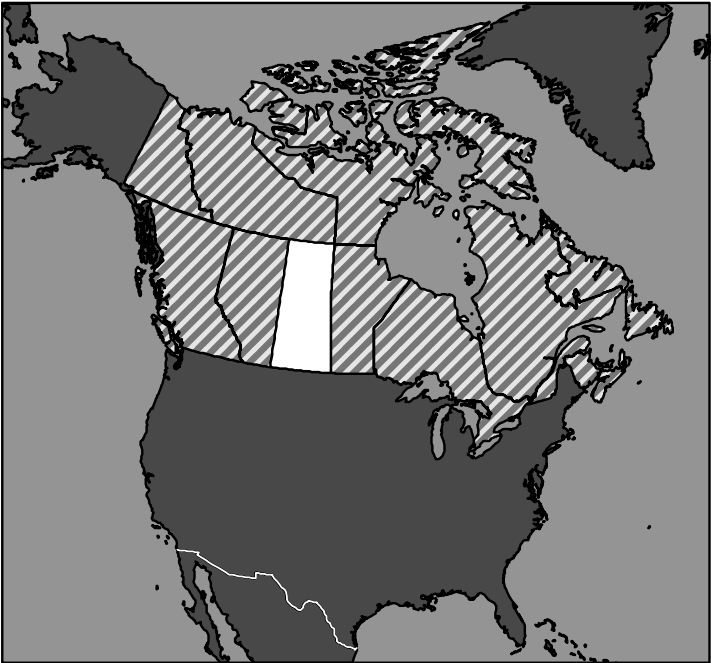
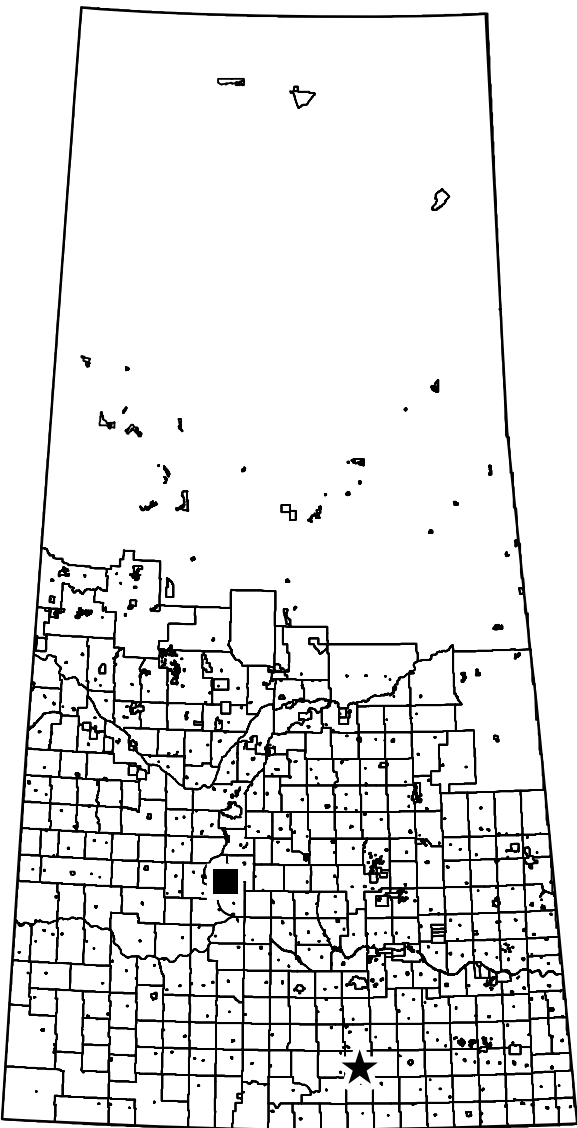
2.3 (a) national scale. (b) differences within a country — local rich/poor areas.

3.1 B. street-by-street within a town is the local scale of analysis.

3.2 B. merging data into larger units is aggregation.

3.3 (a) national scale. (b) the national average aggregates all regions, hiding local areas below 95%.

Map 1: Political Divisions in Saskatchewan, Canada



- Saskatchewan
- Other Canadian provinces and territories
- Other countries

0 100 miles

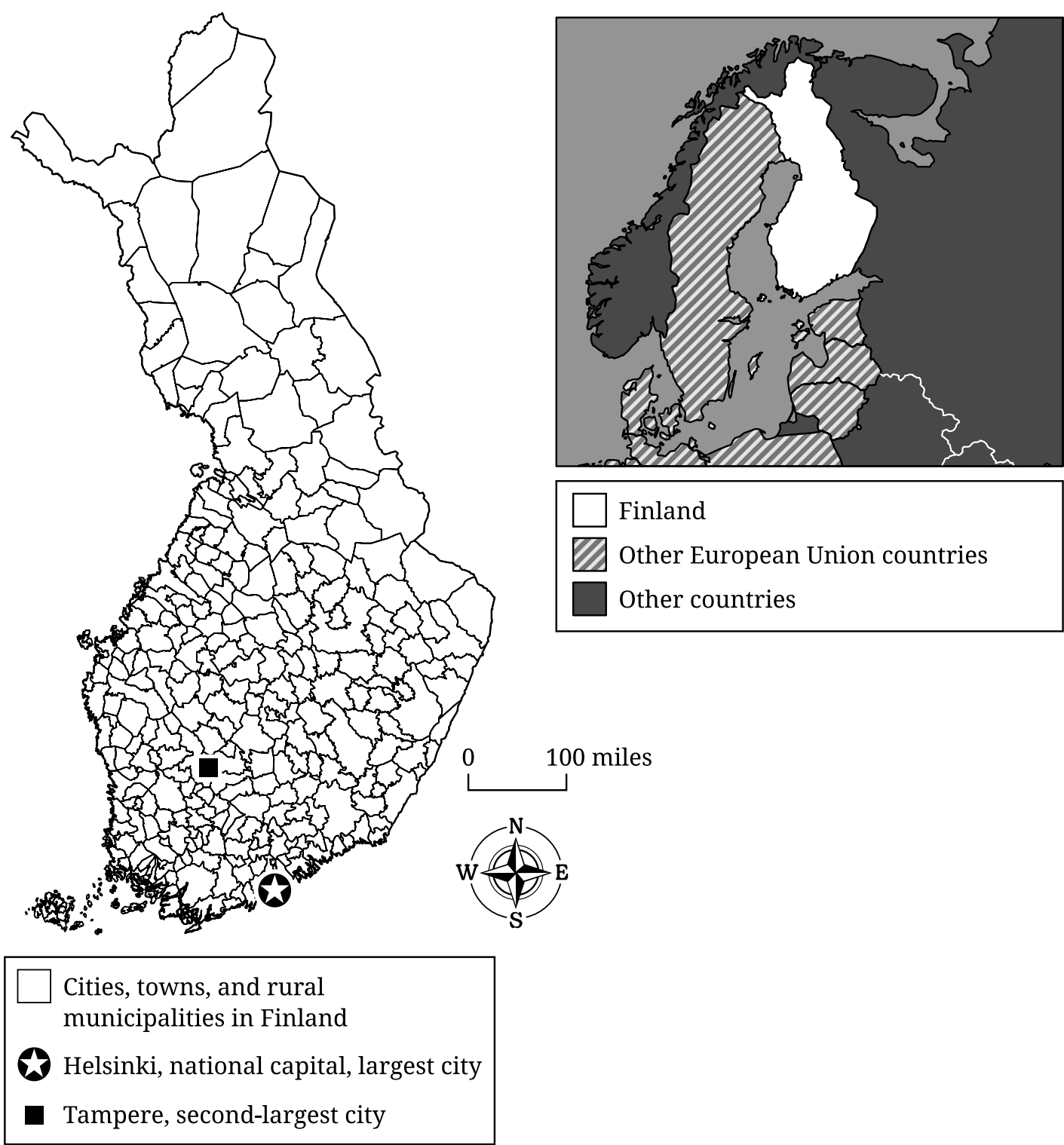


- Cities, towns, and rural municipalities in Saskatchewan
- ★

 Regina, provincial capital, second-largest city
- Saskatoon, largest city

Source: Statistics Canada

Map 2: Political Divisions in Finland



Source: ESRI Data Partners

3. The two maps show political boundaries in Saskatchewan, Canada, and in Finland. Both Finland and Saskatchewan are home to populations of indigenous peoples with a significant amount of political autonomy. Finland is a member state of the European Union.

Respond to parts A, B, C, D, E, F, and G.

- A. Identify the scale of analysis used for Finland's political divisions in Map 2.
- B. Define geometric boundaries as shown in Map 1.
- C. Describe one function of internal boundaries.
- D. Explain how the spatial organization of a country such as Canada is affected by a federal system of governance.
- E. Explain how the supranational organization shown in Map 2 may limit the actions of Finland as a member state.
- F. Describe one characteristic of a cultural landscape that may reflect cultural beliefs and identities.
- G. Explain how communication technologies may affect the cultural patterns of indigenous languages.

STOP

END OF EXAM

**SELECTED TECHNOLOGY RESEARCH AND DEVELOPMENT AREAS
IN THE MEDICAL FIELD**

Category	Product or Service
Biotechnology:	• Genetic engineering research • Biochemistry research • Diagnostic and testing science
Gene therapies:	• Cancer treatments • Neurological treatments • Rare and genetic disease treatments • Antiviral treatments and vaccines (e.g., Moderna)

3. Since the 1980s, the northeastern United States has developed into a major global center of high-technology industry that specializes in the medical field.
- A. Describe the spatial pattern of the companies and institutions shown in the inset map.
 - B. Describe the concept of a growth pole.
 - C. Explain ONE way education infrastructure affects a region's potential for high-technology development.
 - D. Explain how the pattern shown on the map resembles the galactic city model.
 - E. Explain ONE way local economic changes may be a result of deindustrialization.
 - F. Explain how the products and services listed in the table demonstrate that this economy has moved into the quaternary sector.
 - G. The map focuses on a regional scale. Explain a possible limitation of drawing country scale conclusions from a regional scale map.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

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1.7 Regional Analysis

Name: _____ Class: _____ Date: _____

Total: 11 marks

KEY WORDS formal 正式区域 • perceptual 感知区域 • functional 功能区域 • regions 区域 • formal (uniform) region 正式(均质)区域

Objective

Build the skills to answer exam questions on **regions** 区域 and regional analysis.

You must be able to:

- distinguish **formal** 正式区域, **functional** 功能区域, and **perceptual** 感知区域 regions
- give an example of each region type
- explain that regions are defined by people for a purpose
- recognise that regional boundaries can overlap and change

1 Worked examples

Study these first. Each one shows the method for a task used later.

■ Formal (uniform) region

A **formal region** shares a measurable trait throughout — a country, a climate zone, or an area where one language is official.

■ Functional (nodal) region

A **functional region** is organised around a node/focal point — a city's commuter zone, a pizza delivery area, or a newspaper's circulation area.

■ Perceptual (vernacular) region

A **perceptual region** exists in people's minds, based on feelings and identity — 'the South', 'the Middle East' — with fuzzy, disputed borders.

2 Practice

2.1 Define a functional region and give one example. [2]

2.2 State one difference between a formal and a perceptual region. [2]

2.3 Classify each region type.

(a) A country where French is the official language. [1]

(b) The area served by one airport. [1]

(c) 'The Sunbelt' as people imagine it. [1]

3 Exam-style questions

3.1 A metropolitan area defined by its commuter flows to a downtown is a [1]

- **A** formal region
- **B** functional region
- **C** perceptual region
- **D** map projection

3.2 A climate zone where the same temperature and rainfall pattern occurs throughout is a [1]

- **A** functional region
- **B** formal region
- **C** perceptual region
- **D** cartogram

3.3 People argue about exactly where 'the Midwest' begins and ends.

(a) What type of region is 'the Midwest'? [1]

(b) Explain why its boundaries are disputed.

[1]

Solutions

2.1 an area organised around a central node; e.g. a city's commuter zone / a delivery area.

2.2 a formal region shares a measurable common trait; a perceptual region is based on people's feelings/identity, with fuzzy borders.

2.3 (a) formal. (b) functional. (c) perceptual/vernacular.

3.1 B. organised around a node (downtown) by flows = functional region.

3.2 B. a shared, measurable trait throughout = formal region.

3.3 (a) perceptual/vernacular region. (b) it is based on people's differing mental images/identity, not a fixed measurable line.