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COURSE "Geospatial data: Concepts, acquisition and management" - 2022

Written open book exam (10 points) contributing 100% of the course mark

SECOND OPPORTUNITY

Date/Time: 11 January 2023 from 14:00 to 16:00 (120 minutes)

Access via the LDB to the CANVAS course: https://canvas.utwente.nl/courses/10630

Access via the LDB to the Living Textbook: https://ltb.itc.utwente.nl/page/498

The 2nd opportunity of the online written test will take place in your designated cluster. You have to sign a registry and setup your laptop before the test starts. Late entries are not allowed. You are requested to be present 15 minute
test starts.

Subjects covered by the examination

	Points	Approx. Time
Spatial Data Models (SDM)	0,9	11
EM-Radiation & Analysing reflected and emitted radiation	1,6	19
Data Acquisition (GIS and RS)	1,6	19
Spatial Reference Systems & Image reprojection and resampling	1,6	19
Introduction Atmospheric Correction	0,9	11
Data Management	0,9	11
Data Retrieval	0,9	11
Visualisation Principles & Image Visualisation and Colour Composites	1,6	19
TOTAL	10,00	120

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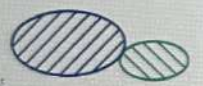
Question 1

0.3 / 0.4 pts

Match the GIS task with the topological relationship that you would use to complete it. Relationships can be re-used. Select from:

Topological relationship	
is equal to 	
 contains	
is inside 	
meets 	
 overlaps	
is disjoint from 	

You Answered — You want to calculate the total length of highways (line) crossing flood risk areas (polygon) — Is inside

Correct answer — Overlaps

Correct! — You want to identify the city neighborhood (polygon) in which a series of bus stations (points) are located — Contains

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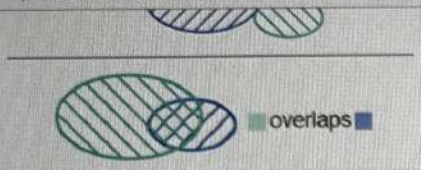

You Answered — You want to calculate the total length of highways (line) crossing flood risk areas (polygon) — Is inside

Correct answer — Overlaps

Correct! — You want to identify the city neighborhood (polygon) in which a series of bus stations (points) are located — Contains

Correct! — You want to select all trees (points) that are planted within a certain parcel (polygon) — Is inside

Correct! — You want to find out the percentage of deforested spots (polygon) that are located on forest protection areas (polygon) — Overlaps

Other Incorrect Match Options:

- Is equal to
- Is disjoint from
- Meets

0.5 / 0.5 pts

Question 2

A Region Quadtree is a type of tessellation. Which statements below about the use of Region Quadtrees are correct?

Select the 2 correct answers. An incorrect answer cancels a correct answer.

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Question 2

A Region Quadtree is a type of tessellation. Which statements below about the use of Region Quadtrees are correct?

Select the 2 correct answers. An incorrect answer cancels a correct answer.

Correct!

- [x] Region Quadtrees lead to a decrease in the amount of memory to store the data
- [ ] Region Quadtrees are simpler and more adaptive than regular tessellations

Correct!

- [x] Region Quadtrees apply a nested tessellation based on spatial correlation
- [ ] The Region Quadtree is the only irregular type of tessellation that exists

Question 3

The following table shows some characteristics of one sensor of Sentinel 3

Band	Central Wavelength (nm)	Bandwidth (nm)	Resolution (meters)
S1	554.27	19.26	500
S2	659.47	19.25	
S3	868	20.6	
S4	1374.8	20.8	
S5	1613.4	60.68	
S6	2255.7	50.15	

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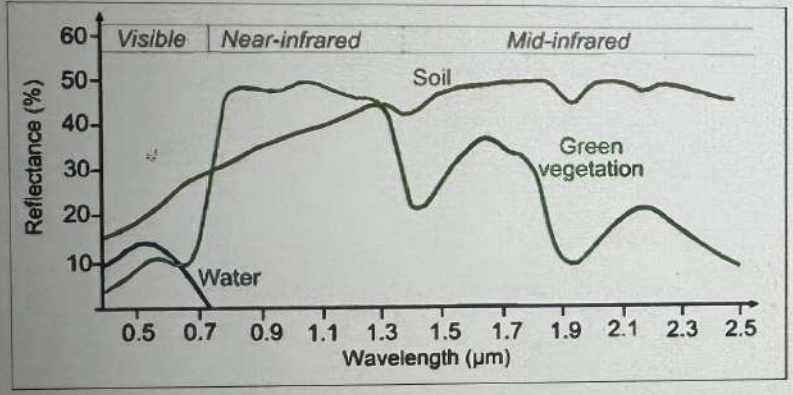
Question 3

0.3 / 0.9 pts

The following table shows some characteristics of one sensor of Sentinel 3

Band	Central Wavelength (nm)	Bandwidth (nm)	Resolution (meters)
S1	554.27	19.26	500
S2	659.47	19.25	
S3	868	20.6	
S4	1374.8	20.8	
S5	1613.4	60.68	
S6	2255.7	50.15	
S7	3742	398	1000
S8	10854	776	
S9	12022.5	905	
F1	3742	398	
F2	10854	776	



You are interested in the detection of Fire of a certain tree species having a temperature of 527 °C when burning.

Among the available bands, what is the best wavelength to detect this fire? S2

You need to build a NDVI image. Which of the following bands you do not use? S4

The Sun irradiance reaching the ground in Band S7 is 4.5 watt/m2

The emission of a Pixel 1 on Earth having a temperature of 310 K with an emissivity of 0.98 in the same band is 0.83 watt/m^2. You are now looking at a daytime image of band S7 of pixel 1. The value of the radiance of this pixel is predominantly the reflected radiance of the Sun

Answer 1:

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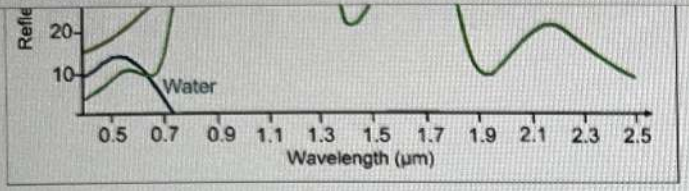

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Answer 1:

You Answered — S2

Correct answer — S7

Answer 2:

Correct! — S4

Answer 3:

Correct answer — the emission of the pixel

You Answered — the reflected radiance of the Sun

Explanation: the reflected radiance of the Sun would be 4.5 * reflectance = 4.5 * (1 - 0.98) = 0.09 watt/m2 so 10 times less.

0.28 / 0.7 pts

Question 4

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Question 4

0.28 / 0.7 pts

Select whether the following statement is true or false.

The Real body emissivity = 1 – reflectance in all wavelengths [Select]

The Stefan Boltzmann equation represents the total emission of the blackbody in the thermal range [Select]

The frequency and the wavelength are related only by the speed of light [Select]

The skin temperature of an object depends on the wavelength the object is being observed with [Select]

The skin temperature of an object con be calculated only if the emissivity of the object is known in the band of the instrument and the incoming longwave radiation reaching the object and the outgoing longwave radiation leaving the object is also measured with the same instrument [Select]

Answer 1:

Correct! False

Answer 2:

Correct answer False

You Answered True

Answer 3:

Correct answer True

You Answered False

Answer 4:

Correct! False

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Correct! False

Answer 2:

Correct answer False

You Answered True

Answer 3:

Correct answer True

You Answered False

Answer 4:

Correct! False

Answer 5:

False. You selected this answer. This

Correct answer True

You Answered False

Explanation: Emissivity= 1 – reflectance – transmissivity

Explanation Stefan Bolzmann: It is in all wavelength ranges

Explanation skin temperature: not it is independent of it

0.3 / 0.4 pts

Question 5

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Question 5

0.3 / 0.4 pts

The following table information of some characteristics of one sensor of Sentinel 3:

Band	Central Wavelength (nm)	Bandwidth (nm)	Resolution (meters)
S1	554.27	19.26	
S2	659.47	19.25	
S3	868	20.6	
S4	1374.8	20.8	500
S5	1613.4	60.68	
S6	2255.7	50.15	
S7	3742	398	
S8	10854	776	
S9	12022.5	905	1000
F1	3742	398	
F2	10854	776	

What kind of information is directly shown, or it can be deducted about this sensor?

Spatial characteristics [Select]

Radiometric characteristics [Select]

Spectral characteristics [Select]

Temporal characteristics [Select]

IFOV [Select]

FOV [Select]

Electromagnetic spectrum range of all single bands [Select]

For the S2 Band the resolution of 500 m is better represented with the Ground Sampling Distance (GSD) or the Ground Resolution Cell (GRC)? [Select]

Answer 1:

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For the S2 Band the resolution of 500 m is better represented with the Ground Sampling Distance (GSD) or the Ground Resolution Cell (GRC)? [Select]

Answer 1:

Correct! Yes

Answer 2:

Correct! No

Answer 3:

Correct! Yes

Answer 4:

Correct! No

Answer 5:

No. You selected this answer. This

Correct! No

Answer 6:

You Answered Yes

Correct answer No

Answer 7:

Correct! Yes

Answer 8:

You Answered GRC

Correct answer GSD

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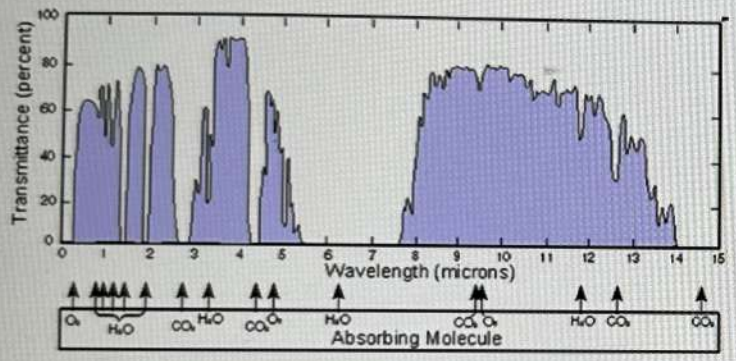
Question 6

0.4 / 0.4 pts



Band	Bandwidth (μm)
HRV (12)	0.60–0.90
1	0.56–0.71
2	0.74–0.88
3	1.50–1.78
4	3.48–4.36
5	5.35–7.15
6	6.85–7.85
7	8.30–9.10
8	9.38–9.94
9	9.80–11.80
10	11.00–13.00
11	12.40–14.40

In the graphyou find the transmissivity of the atmosphere as a function of wavelength. In the table you find the bandwidth of the Meteosat Second Generation (MSG) satellite sensor.

You are interested in the study of the land and not in the study of the atmosphere. Out of the 12 bands of MSG what bands do you use for your study?

- Bands 1-3
- Bands 1-4 and 7-11

Correct!

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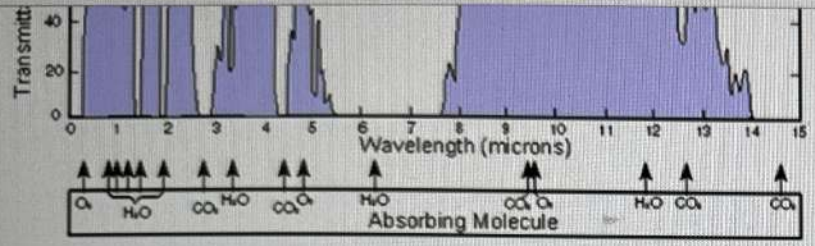

Band	Bandwidth (μm)
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5	5.35–7.15
6	6.85–7.85
7	8.30–9.10
8	9.38–9.94
9	9.80–11.80
10	11.00–13.00
11	12.40–14.40

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- Bands 1-3
- Correct! Bands 1-4 and 7-11
- Bands 1-11
- Bands 5 and 6
- Bands 1-8

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Question 7

0 / 0.4 pts

A topographic map with a map scale of 1:10,000 has been registered using 4 grid intersection points. The Root Mean Squares Error (RMSE) of the map registration is approximately 20 meter. Is the level of error acceptable?

Select the ONE correct answer from the following list.

Correct answer

- The RMSE is not acceptable because the error in map units is 2mm which is larger than the typical accuracy of a topographic map.
- The RMSE is acceptable because the error in map units is 2mm which is smaller than the typical accuracy of a topographic map.
- The RMSE is not acceptable because the error in map units is 0.2mm which is larger than the typical accuracy of a topographic map.

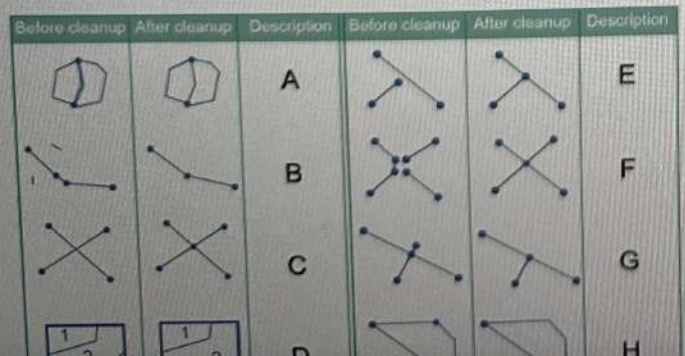
You Answered

- The RMSE is acceptable because the error in map units is 0.2mm which is smaller than the typical accuracy of a topographic map.

Question 8

0.4 / 0.4 pts

Below you see a figure showing clean-up operations for vector data. For each operation, you see the situation before and after clean-up. In the column called "Description" each operation has a letter (A-H). Match these letters with the correct clean-up operation. Operations can be re-used.



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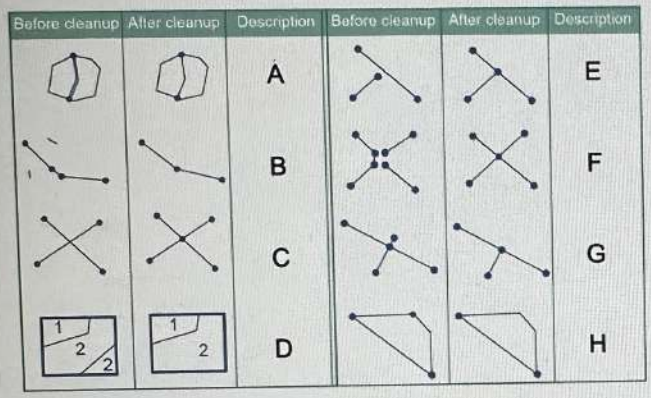
Question 8

0.4 / 0.4 pts

Below you see a figure showing clean-up operations for vector data. For each operation, you see the situation before and after clean-up. In the column called "Description" each operation has a letter (A-H). Match these letters with the correct clean-up operation. Operations can be re-used.



Correct!	Dissolve nodes into vertices	H
Correct!	Break crossing objects	C
Correct!	Erase dangling objects or overshoots	G
Correct!	Erase duplicates or sliver lines	A
Correct!	Dissolve polygons	D
Correct!	Snap clustered nodes	F

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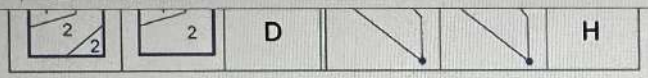

Correct!	Dissolve nodes into vertices	H
Correct!	Break crossing objects	C
Correct!	Erase dangling objects or overshoots	G
Correct!	Erase duplicates or sliver lines	A
Correct!	Dissolve polygons	D
Correct!	Snap clustered nodes	F
Correct!	Extend undershoots	E
You Answered	Erase short objects	B

Correct answer G

Other Incorrect Match Options:

- B

0 / 0.4 pts

Question 9

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Question 9

0 / 0.4 pts

The RMSE of location given by the system during the process of georeferencing corresponds to (select the one correct answer from the following list):

Correct answer

- The overall location error of the selected GCP's
- The overall location error of the goereferencing of working area in the image, bounded by the selected GCP's
- The RMSE error of the best subset of GCP's from all the entered GCP's

You Answered

- The overall location error of the image georeferencing

Question 10

0.4 / 0.4 pts

Select the correct answer from the following lists.

A cubic-convolution geocoding can be done over landcover map. [Select]

You are making a product derived from Remote Sensing. The product quality is very much dependent on the original Digital Numbers of the image bands. The product is ready after a long chain of image operations. The product must be geocoded to be offered to the people. Your boss comes and tells you: "Do the geocoding at the beginning of the process so the final product is accurate and North oriented". Is this statement true or false? False

What is the purpose of an orthophoto rectification? [Select]

Answer 1:

Correct!

False

Answer 2:

Correct!

False

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Question 10

0.4 / 0.4 pts

Select the correct answer from the following lists.

A cubic-convolution geocoding can be done over landcover map. [Select]

You are making a product derived from Remote Sensing. The product quality is very much dependent on the original Digital Numbers of the image bands. The product is ready after a long chain of image operations. The product must be geocoded to be offered to the people. Your boss comes and tells you: "Do the geocoding at the beginning of the process so the final product is accurate and North oriented". Is this statement true or false? False

What is the purpose of an orthophoto rectification? [Select]

Answer 1:

Correct! False

Answer 2:

Correct! False

Answer 3:

Correct! To create an image free on relief displacement.

Q2: Motivation: You have altered the image geometry at the beginning of a long chain of processes. After any new calculation the error propagates. You do I at the end.

Question 11

0 / 0.45 pts

Define which statements are correct in the following list. Select the (3) correct answers. An incorrect answer cancels a correct answer.

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Question 11

0 / 0.45 pts

Define which statements are correct in the following list. Select the (3) correct answers. An incorrect answer cancels a correct answer.

Correct answer — ☐ Re-measuring the ITRS all the time is needed because of the tectonic plate motion and the addition of new control stations.

You Answered — ☑ One location on the Earth can have different geographic coordinates. The differences in coordinates can be up to several hundreds of kilometers.

Correct answer — ☐ Geocentric coordinates are also known as 3D Cartesian coordinates.

☐ A geographic coordinate system's coordinates are measured in linear units, such as feet or meters.

Correct answer — ☐ Flattening (f) and semi-minor axis (b) together, can be used to define an ellipsoid.

☐ Differences in gravity will affect the shape of the Geoid, Mean Sea Level, and the ellipsoid.

Question 12

0.35 / 0.35 pts

The figure below shows the cylindrical equal-area projection.

At which location(s) do you measure correct (true) distances?
Select the ONE correct answer from the following list.

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Question 12

0.35 / 0.35 pts

The figure below shows the cylindrical equal-area projection.

At which location(s) do you measure correct (true) distances?
Select the ONE correct answer from the following list.

- Along all parallels
- At any location
- Along the equator **Correct!**
- Between latitude -45 and 45
- Between longitude -45 and 45
- Along all meridians and along the equator

Question 13

0.4 / 0.4 pts

Select the one correct answer from the following list.

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Question 13

0.4 / 0.4 pts

Select the one correct answer from the following list.

Blackbodies that receive radiation can sustain a constant temperature due to the [Select]

Coffee appears to be black because of [Select]

Milk is white due to [Select]

Since one cannot look through them, the transmission of light by both milk and coffee must be very small.

Answer 1:

Correct! emission of radiation

Answer 2:

Correct! absorption of light

Answer 3:

Correct! scattering of radiation

Answer 4:

Correct! transmission

Question 14

0 / 0.5 pts

A sun photometer is an optical instrument that detects aerosols by comparing the intensity of direct sunlight it observes at different wavelengths (λ) with the theoretically expected intensity for an atmosphere without aerosols. You worked with data from the sun photometer at Cabauw during the exercise accompanying the lecture on atmospheric correction. The graph below

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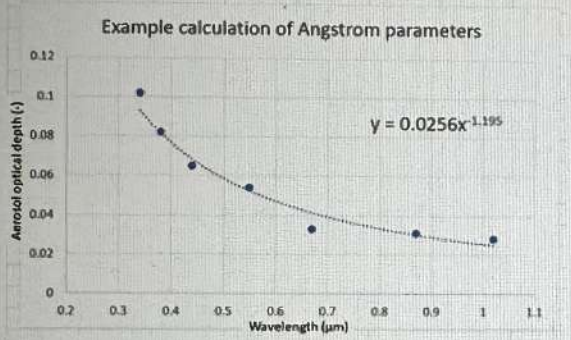
Question 14

0 / 0.5 pts

A sun photometer is an optical instrument that detects aerosols by comparing the intensity of direct sunlight it observes at different wavelengths (λ) with the theoretically expected intensity for an atmosphere without aerosols. You worked with data from the sun photometer at Cabauw during the exercise accompanying the lecture on atmospheric correction. The graph below shows an example of aerosol optical depth (AOD) determined at wavelengths between 0.34 µm and 1.02 µm from a sun photometer.



Which gas absorbs strongly at the wavelengths used for aerosol detection? [Select]

Using the graph above and the equation $AOD = \beta \times \lambda^{-\alpha}$ calculate the AOD at 532 nm. 0.012

What is the value of α for particles much smaller than the wavelength of observation, e.g., air molecules? [Select]

Answer 1:

You Answered: Water (H2O)

Correct answer: None

Answer 2:

Correct answer: 0.0544

You Answered: 0.012

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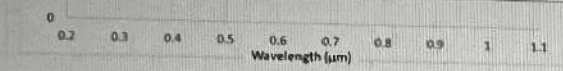

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Using the graph above and the equation $AOD = \beta \times \lambda^{-\alpha}$ calculate the AOD at 532 nm. 0.012

What is the value of α for particles much smaller than the wavelength of observation, e.g., air molecules? [Select]

Answer 1:

You Answered: Water (H2O)

Correct answer: None

Answer 2:

Correct answer: 0.0544

You Answered: 0.012

Answer 3:

Correct answer: 4

You Answered: 0

Question 15

0.6 / 0.6 pts

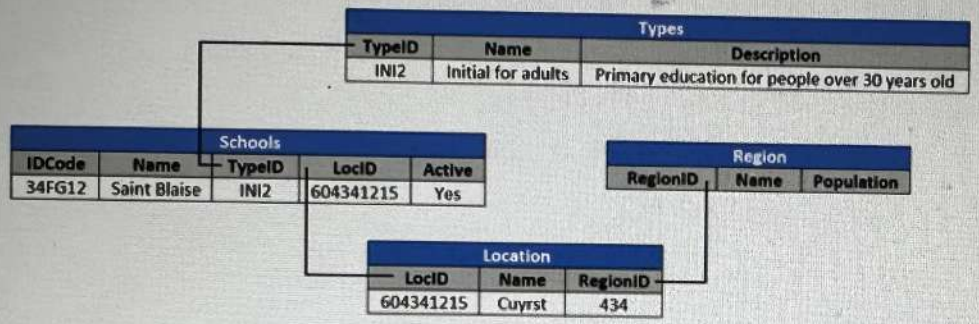
The database rural_schools has the following relations:

Types

TypeID	Name	Description
INI2	Initial for adults	Primary education for people over 30 years old

Question 15

The database rural_schools has the following relations:



Types

TypeID	Name	Description
INI2	Initial for adults	Primary education for people over 30 years old

Schools

IDCode	Name	TypeID	LocID	Active
34FG12	Saint Blaise	INI2	604341215	Yes

Region

RegionID	Name	Population

Location

LocID	Name	RegionID
604341215	Cuyrst	434

Select for each group of items, the correct fitting concept:

Correct!	Location, Types	Relation
Correct!	604341215, Cuyrst, 434	Tuple
Correct!	5 attributes, 1 tuple	Relation instance
Correct!	Location.RegionID, Schools.TypeID	Foreign key
Correct!	4 relations, 3 tuples	Database instance
Correct!	Schools.IDCode, Region.RegionID	Primary key

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Question 16

0.15 / 0.3 pts

Select from the list below, the 2 statements about spatial database management systems (SDBMS) that are correct. An incorrect answer cancels a correct answer.

Correct answer

- [ ] Data Manipulation Language is used to query a database
- [ ] A database schema is the structure of a relation

Correct!

- [x] A database schema is a formal description of the database structure
- [ ] A SDBMS can only support spatial data.
- [ ] A spatial dataset cannot be stored in a non-spatial database
- [ ] The data domain can be used as referential constraint

Question 17

0 / 0.45 pts

Airports	ID	Name	Gates	Location
	EGHI	Southampton	50	0101000020E61000
	EGLK	Blackbushe	16	0101000020E61000
	EGMH	Kent	20	0101000020E61000
	EGMD	Lydd	25	0101000020E61000
	EGTO	Rochester	5	0101000020E61000
	EGKK	Gatwick	115	0101000020E61000

Counties	Code	Name	Region	Population	Density
	UKJ33	Hampshire	SE England	1844245	489
	UKJ42	Kent	SE England	1846478	494
	UKJ24	West Sussex	SE England	858852	431

Arrivals	Code	ID	Visitors

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Question 17

0 / 0.45 pts

Airports	ID	Name	Gates	Location
	EGHI	Southampton	50	0101000020E61000
	EGLK	Blackbushe	16	0101000020E61000
	EGMH	Kent	20	0101000020E61000
	EGMD	Lydd	25	0101000020E61000
	EGTO	Rochester	5	0101000020E61000
	EGKK	Gatwick	115	0101000020E61000

Counties	Code	Name	Region	Population	Density
	UKJ33	Hampshire	SE England	1844245	489
	UKJ42	Kent	SE England	1846478	494
	UKJ24	West Sussex	SE England	858852	431

Arrivals	Code	ID	Visitors
	UKJ24	EGKK	4211
	UKJ42	EGTO	40
	UKJ42	EGMD	524
	UKJ42	EGMH	2301
	UKJ33	EGLK	326
	UKJ33	EGHI	2548

In the picture above you see three relations. Imagine that after performing a query, you obtain the following result:

Name	Region
Rochester	Kent
Blackbushe	Hampshire

Which query did you perform? Select ONE correct answer from the list.

```
SELECT A."Name", B."Name"
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" < 500
```

You Answered

```
SELECT A."Name", B."Name" as region
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" > 500
```

```
SELECT A."Name", B."Name"
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" > 500
```

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UKJ24	EGKK	4211
UKJ42	EGTO	40
UKJ42	EGMD	524
UKJ42	EGMH	2301
UKJ33	EGLK	326
UKJ33	EGHI	2548

In the picture above you see three relations. Imagine that after performing a query, you obtain the following result:

Name	Region
Rochester	Kent
Blackbushe	Hampshire

Which query did you perform? Select ONE correct answer from the list.

SELECT A."Name", B."Name"
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" < 500

You Answered

SELECT A."Name", B."Name" as region
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" > 500

SELECT A."Name", B."Name"
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" > 500

SELECT A."Name", B."Name" as regionFROM "Airports" as A, "Counties" as B, "Arrivals" as C AND B."Code"=C."Code" AND C."Visitors" 500. You selected this answer.

SELECT A."Name", B."Name" as region
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."Code" AND B."Code"=C."ID" AND C."Visitors" > 500

SELECT A."Name", B."Name" as region
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."Code" AND B."Code"=C."ID" AND C."Visitors" < 500

Correct answer

SELECT A."Name", B."Name" as region
FROM "Airports" as A, "Counties" as B, "Arrivals" as C
WHERE A."ID"=C."ID" AND B."Code"=C."Code" AND C."Visitors" < 500

0.45 / 0.45 pts

Question 18

Question 18

Given the following relation:

	gid [PK] integer	class character varying (7)	name character varying (21)	pop_total double precision
1	1	Village	Tokey	1234
2	2	Village	Dzongchung	2435
3	3	Village	Yangchenphu	3098
4	4	Village	Taba	1007
5	5	Village	Sinmo	2087
6	6	Village	Chimithangkha	1854
7	7	Village	Chamgang	2065
8	8	Village	Talakha	1736
9	9	Hamlet	Jidekha	902
10	10	Hamlet	Tshalunang	765
11	11	Hamlet	Pumola	549
12	12	Hamlet	Thadranang	203

evaluate the following condition:

(class <> 'Hamlet' or name = 'Unknown') AND pop_total > 1300

Indicate how many tuples meet the condition. Select one correct answer from the list below.

Correct!

- (●) 6
- ( ) 2
- ( ) 0
- ( ) 8
- ( ) 4

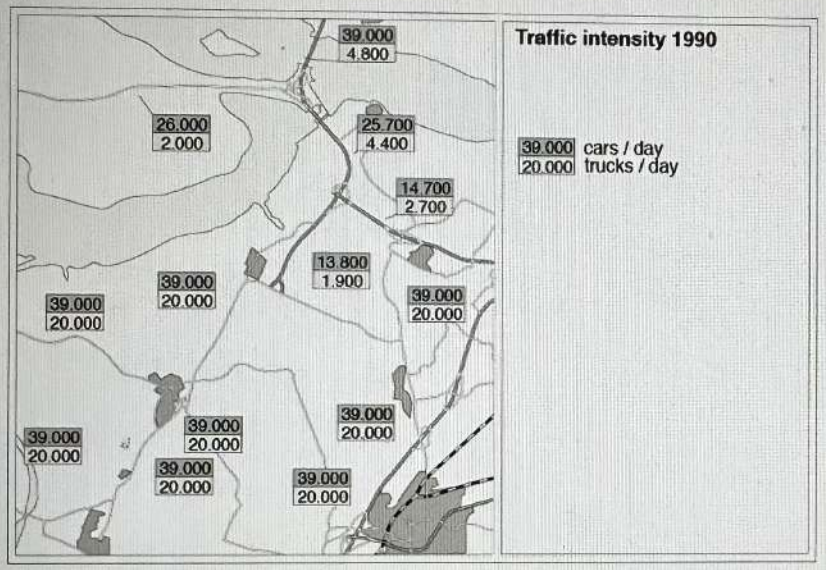
New Tab

HELP CENTER

Question 19

0 / 0.4 pts

Look at the map below. It depicts traffic intensity on roads, measured in number of cars and trucks, per day. Use your knowledge of cartographic grammar and thematic maps to select the correct answers from the drop-down lists.



There are actually 2 data variables to be distinguished. The natures of these data variables are [Select]

The visual variable chosen for the data variable "number of trucks per day" should create the following perception for it's measurement scale [Select]

For showing the data variable "number of trucks per day" the visual variable used is [Select]

The cartographic choices made as listed above are, according to the graphic grammar theory, [Select]

Answer 1:

You Answered

(You left this blank)

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HELP CENTER

There are actually 2 data variables to be distinguished. The natures of these data variables are [Select]

The visual variable chosen for the data variable "number of trucks per day" should create the following perception for it's measurement scale [Select]

For showing the data variable "number of trucks per day" the visual variable used is [Select]

The cartographic choices made as listed above are, according to the graphic grammar theory, [Select]

Answer 1:

You Answered: (You left this blank)

Correct answer: Qualitative Nominal + Quantitative Ratio Absolute

Answer 2:

Correct answer: Quantitative

You Answered: Ordered

Answer 3:

Ordered. You selected this answer.

You Answered: Value

Correct answer: None of the listed options

Answer 4:

Correct answer: Sub-optimal, a proportional line map should have been used

You Answered: Optimal

Question 20

0 / 0.3 pts

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HELP CENTER

Question 20

0 / 0.3 pts

The cartographic communication process was summarised as "How do I say what to whom, and is it effective?" (a term coined by Prof. Koeman in 1971). Which part of this process (and thus, which part of the sentence) does the Graphic Grammar (as first elaborated by Jacques Bertin in 1967) describe?

- do I say
- to whom,
- and is it effective?
- You Answered — what
- Correct answer — How

Question 21

0.5 / 0.5 pts

Use common knowledge on statistics, visualisation and efficient and effective contrast enhancement to answer the following question.

Imagine you have the following image when you select local minimum and maximum of the current extent for contrast enhancement.

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HELP CENTER

Question 21

0.5 / 0.5 pts

Use common knowledge on statistics, visualisation and efficient and effective contrast enhancement to answer the following question.

Imagine you have the following image when you select local minimum and maximum of the current extent for contrast enhancement.

You use other options to calculate the minimum and maximum for the contrast enhancement: Cumulative count cut using 2% and 98% and Mean +/- 2 standard deviations. Select the only correct answer from the list.

- When you switch from the original display to Cumulative count cut you see a decrease in the number of black pixels and an increase in the number of white pixels
- Mean +/- 2 standard deviations is efficient and will definitely lead to white and black pixels
- Correct! Cumulative count cut will lead to more black pixels than Mean +/- 2 standard deviations
- Cumulative count cut is not efficient but is effective

Question 22

0.4 / 0.4 pts

You have a satellite image with 3 bands. The objects A, B and C have different spectral properties and thus they have different DN values in the satellite image. Value 255 is the maximum value present in all bands.

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HELP CENTER

Correct!

- (●) Cumulative count cut will lead to more black pixels than Mean +/- 2 standard deviations
- ( ) Cumulative count cut is not efficient but is effective

Question 22

0.4 / 0.4 pts

You have a satellite image with 3 bands. The objects A, B and C have different spectral properties and thus they have different DN values in the satellite image. Value 255 is the maximum value present in all bands.

	Value in Band 1	Value in Band 2	Value in Band 3
Object A	0	127	127
Object B	127	127	127
Object C	0	255	0

You make a colour composite and select Band 3 for display in Red, Band 2 for display in Green and Band 1 for display in Blue. Each Object will be displayed with a different colour. Select the one correct answer from the list below.

- ( ) Object A shows in dark Cyan, Object B in Grey and Object C in Blue

Correct!

- (●) Object A shows in dark Yellow, Object B in Grey and Object C in Green
- ( ) Object A shows in dark Yellow, Object B in White and Object C in Green
- ( ) Object A shows in Cyan, Object B in White and Object C in Green
- ( ) Object A shows in dark Green, Object B in light Blue and Object C in dark Yellow