



KNOX
GRAMMAR
SCHOOL

STATE

DA VINCI DECATHLON 2022

CELEBRATING THE ACADEMIC GIFTS OF STUDENTS
IN YEARS 5 & 6



CARTOGRAPHY

TEAM NUMBER _____

1	2	3	Total	Rank
/20	/20	/20	/60	

Complete the above table with question numbers and marks as required.

QUESTION ONE

PATTERNS IN THE CRAFT

PART A (10 MARKS)

For thousands of years, cartographers have used certain conventions – standard methods by which things are done – when crafting maps. This leads to patterns and similarities across maps, which is why it is so easy to identify one when you pick it up.

What are some conventions and common practices used by cartographers that you can think of? Look at the map below for some hints (1 mark per answer)



NUMBER	CONVENTION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

PART B (10 MARKS)

We know that cartographers use conventions when creating maps, but why might this be the case? Answer the two questions below.

What benefits are there for you as a reader when you can see patterns between maps? (5 marks)

What problems might you encounter if conventions weren't used? Can you think of any examples of this happening? (5 marks)

QUESTION TWO

PATTERNS ON THE MAP

THE TASK (20 MARKS)

Cartographers may use maps to highlight patterns that exist in the world around us. Choropleth maps, like the ones below, are thematic maps. They colour or shade areas to represent different information and often make geographic patterns visible. This may be environmental conditions like rainfall, human conditions like population spread, or economic conditions like average household wealth.

This task will test your ability to interpret these patterns. Below are three choropleth maps that you should use to answer the following questions.

What are the climate conditions like in Bourke? (4 marks)

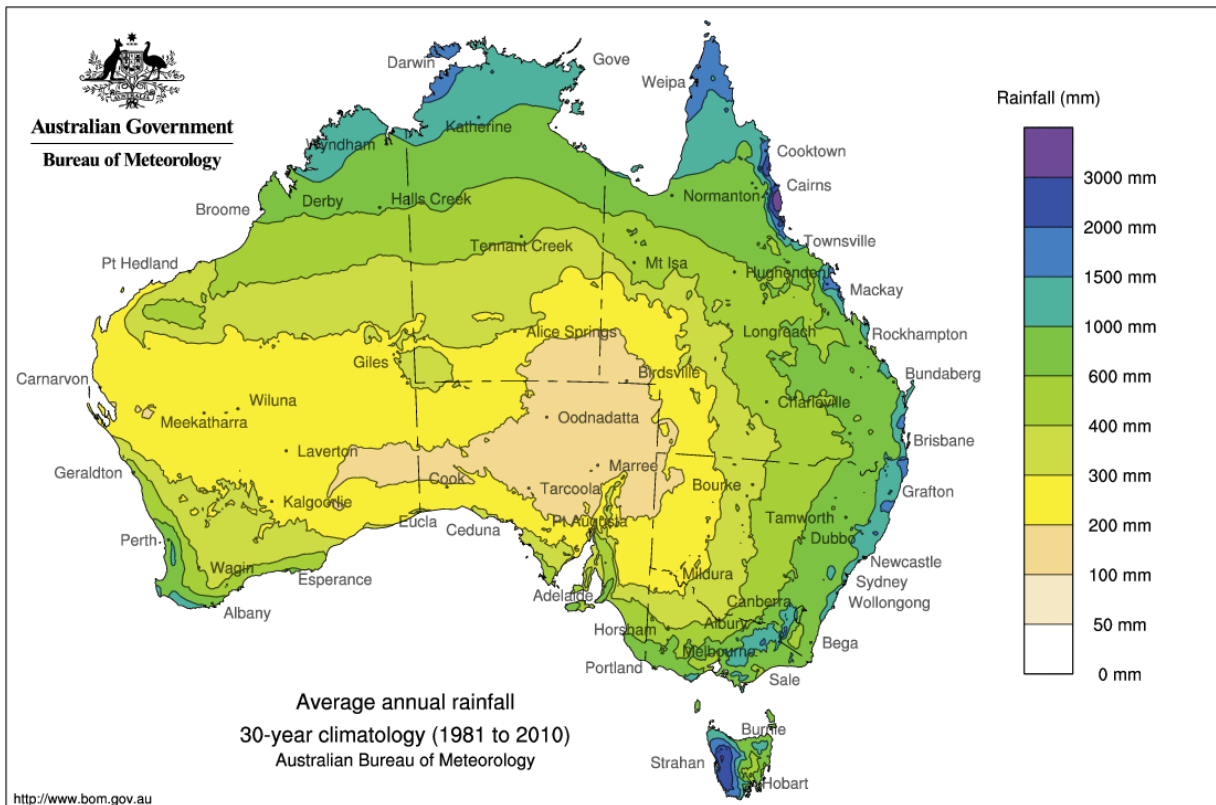
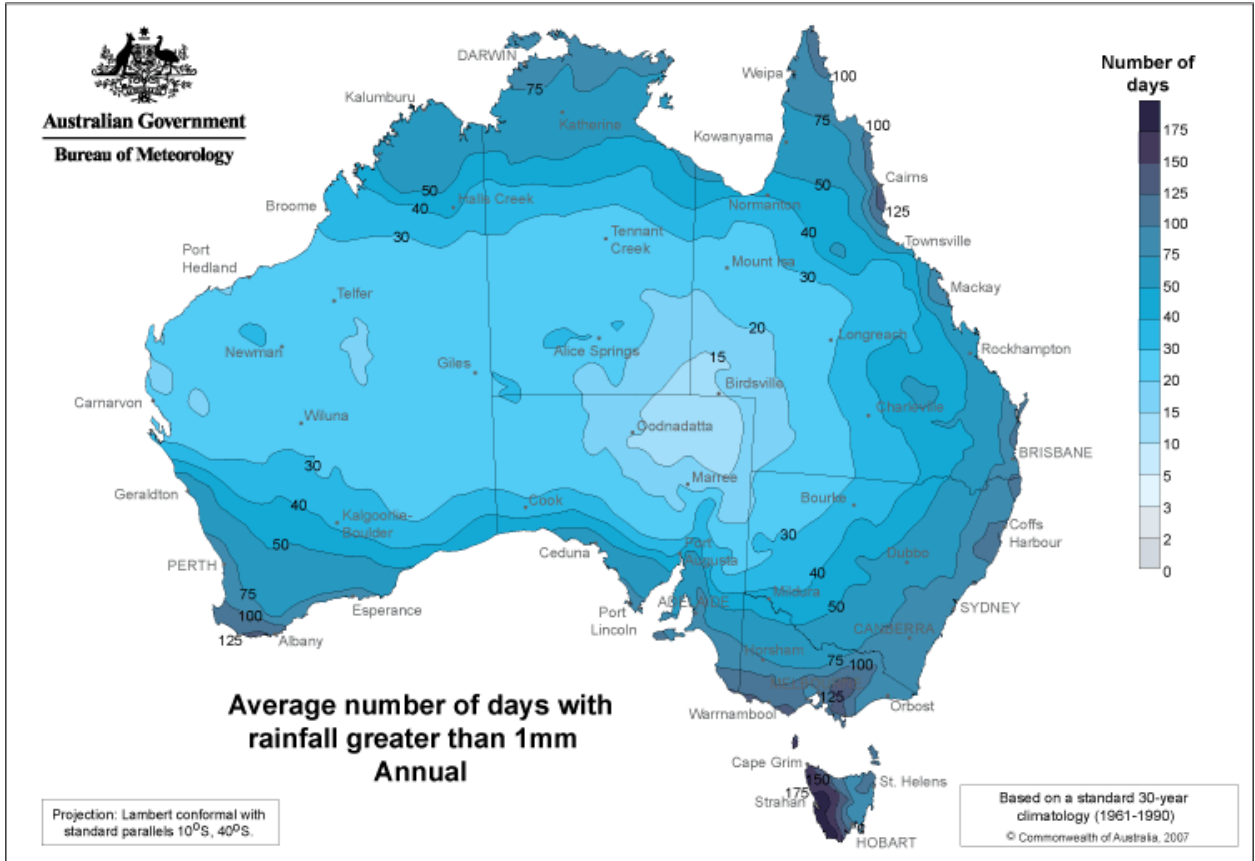
Which region seems to be the wettest in Australia? (3 marks)

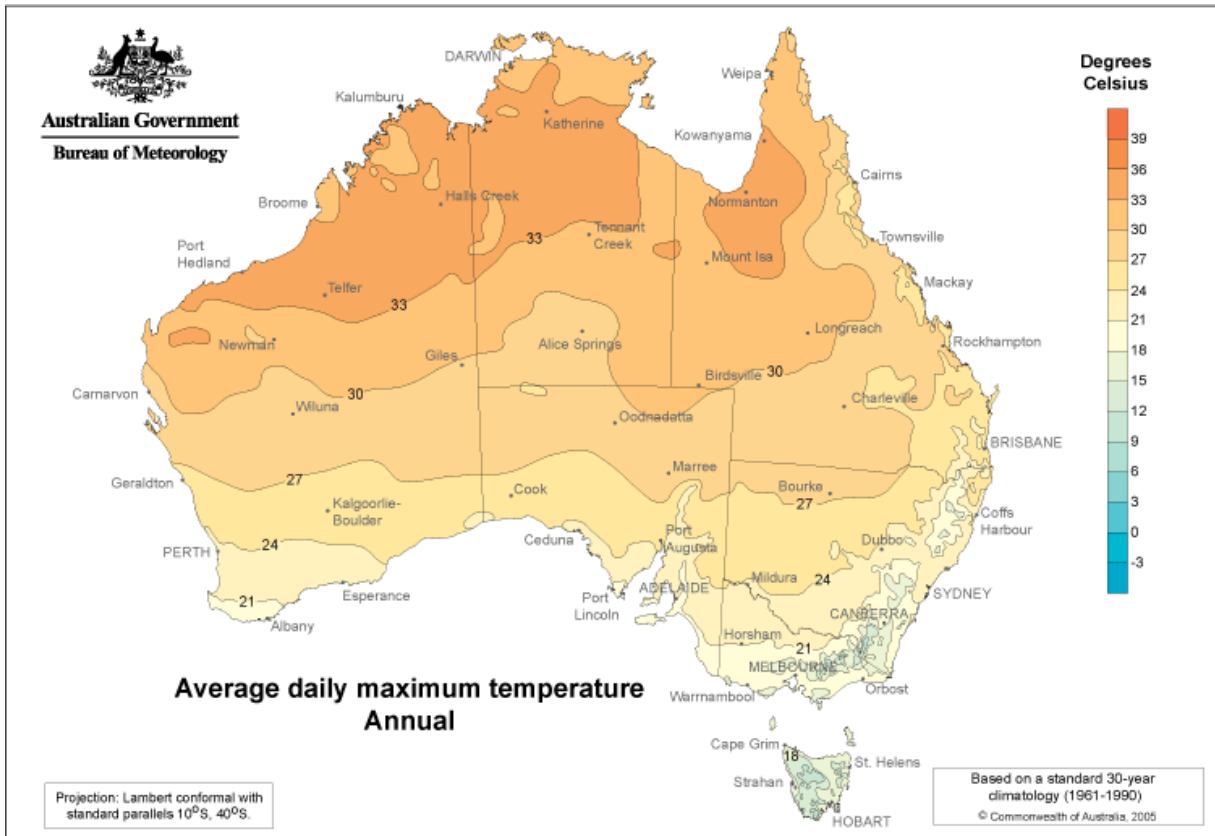
Where would you expect to find large Australian rainforests? Why? (4 marks)

Where would you expect to find large Australian deserts? Why? (3 marks)

Can you name any of these major deserts? (2 marks)

What are some standard conventions that these maps are missing? Are they necessary in this case? (4 marks)





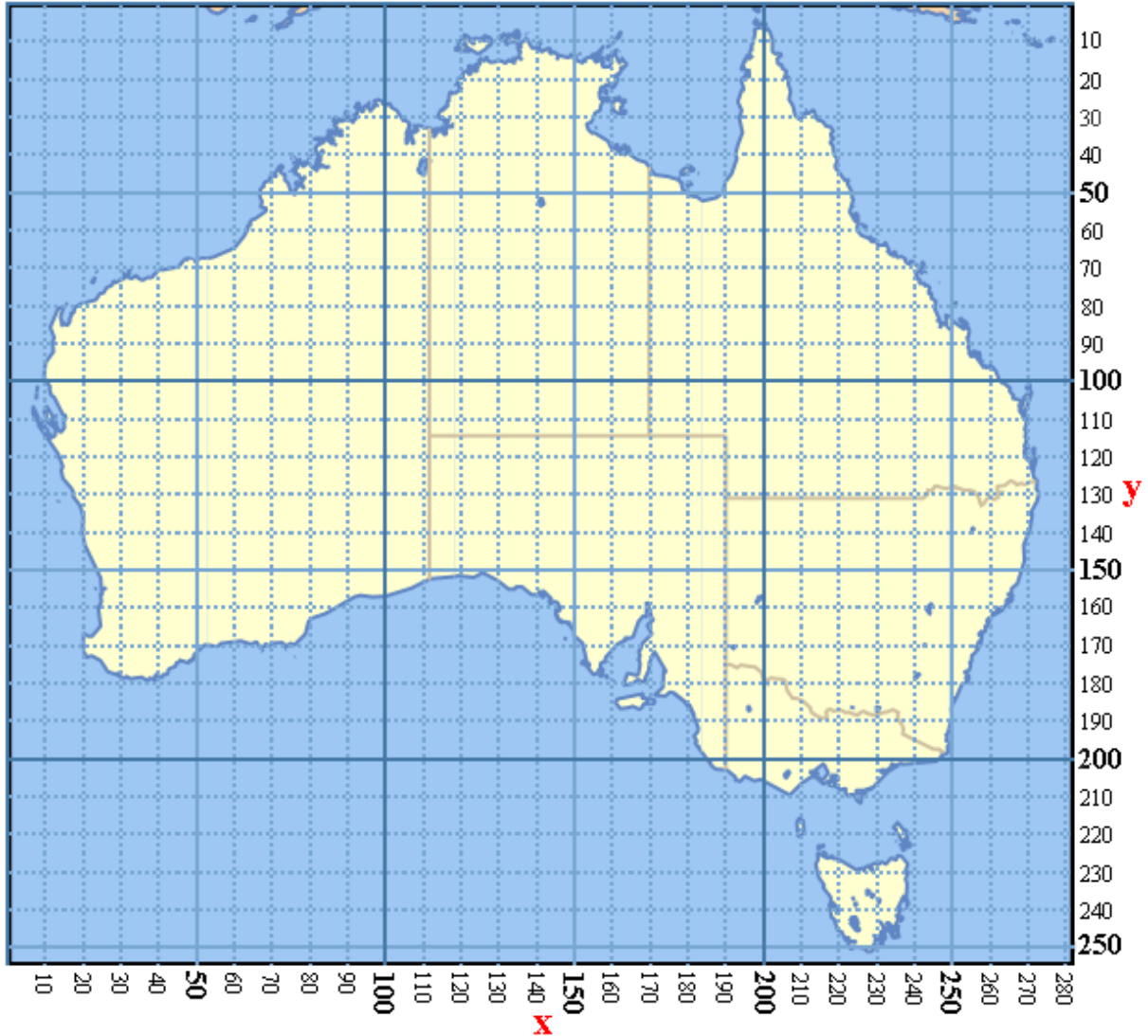
QUESTION THREE

PATTERNS WE CAN USE

PART A (10 MARKS)

Patterns can reveal things we haven't thought of before. Plot the following words on the map of Australia below for a clue for your next task. (1/2 mark per word)

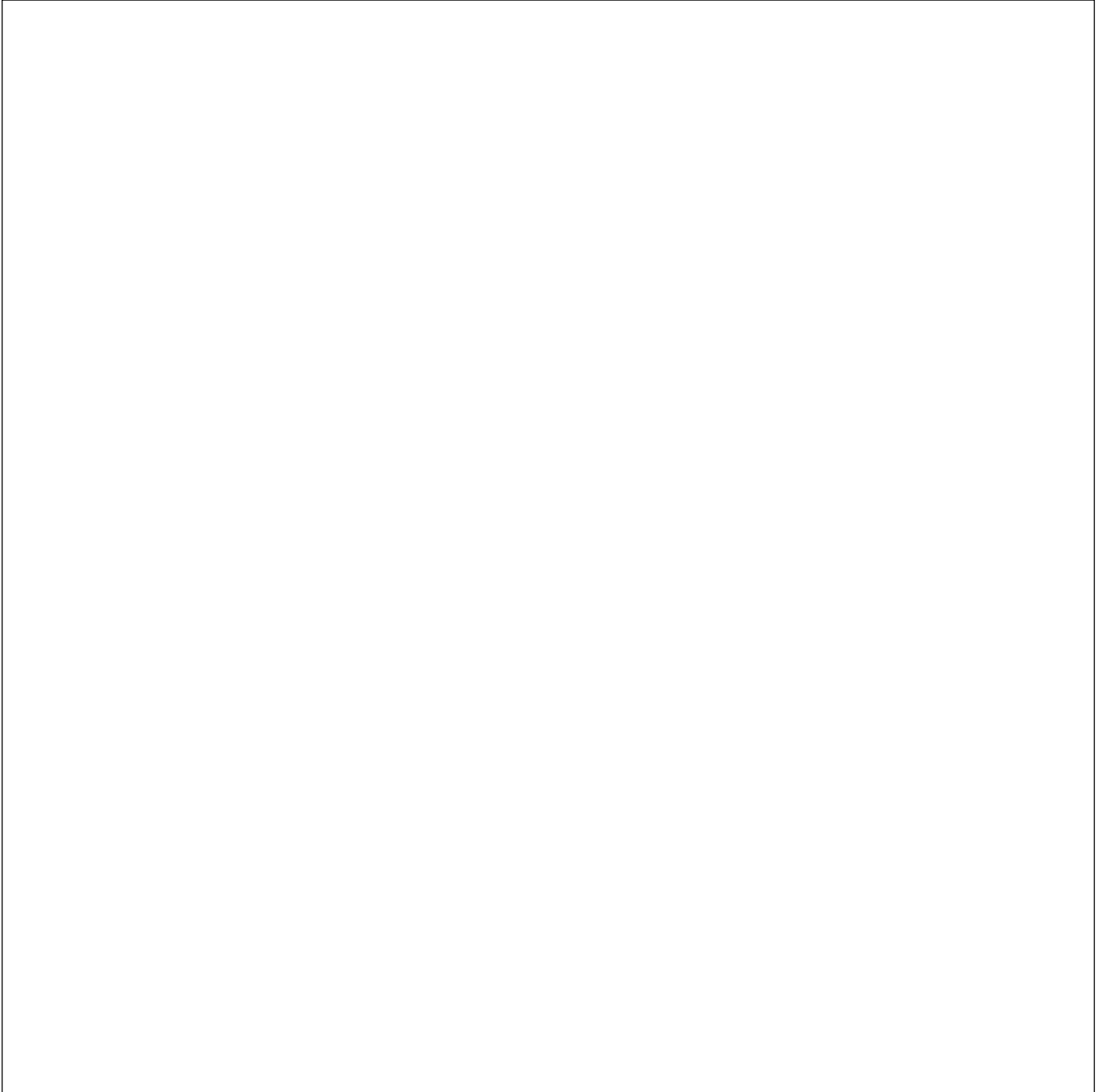
COORDINATES	WORD TO PLOT
(180,60)	a
(100,130)	the
(100,60)	must
(200,90)	conventions
(120,90)	the
(170,90)	correct
(10,130)	that
(80, 60)	you
(200,130)	states
(60,160)	their
(210,70)	map
(220,160)	cities
(160,160)	capital
(140,60)	create
(20,160)	and
(60,130)	displays
(220, 150)	territories
(40,90)	with
(80,90)	all
(150,130)	Australian



PART B (10 MARKS)

Complete Part A in order to find the instructions for this task.

Use the box provided to complete your task. Marks will be awarded for detail, legibility and following the instructions correctly.



END OF PAPER



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TEAM NUMBER _____

1	2	3	Total	Rank
/20	/20	/20	/60	

Complete the above table with question numbers and marks as required.

QUESTION ONE

PATTERNS IN THE CRAFT

PART A (10 MARKS)

For thousands of years, cartographers have used certain conventions – standard methods by which things are done – when crafting maps. This leads to patterns and similarities across maps, which is why it is so easy to identify one when you pick it up.

What are some conventions and common practices used by cartographers that you can think of? Look at the map below for some hints (1 mark per answer)



NUMBER	CONVENTION
1	Border
2	Orientation
3	Legend
4	Title
5	Scale
6	Source
7	Blue colour for water
8	Different colours for different countries
9	Latitude and longitude lines
10	Shading ocean depth. Use discretion for all other answers provided.

PART B (10 MARKS)

We know that cartographers use conventions when creating maps, but why might this be the case? Answer the two questions below.

What benefits are there for you as a reader when you can see patterns between maps? (5 marks)

Answers should consider the following to be awarded 5 marks:

- Increases ease of use – one basic standard
- Allows comparison between maps
- Increases accuracy of representation

What problems might you encounter if conventions weren't used? Can you think of any examples of this happening? (5 marks)

Answers should consider the following to be awarded 5 marks:

- Users may misinterpret the maps and become lost
- Users may disagree about who owns which land
- Maps become much harder to read and use by everyday individuals

QUESTION TWO

PATTERNS ON THE MAP

THE TASK (20 MARKS)

Cartographers may use maps to highlight patterns that exist in the world around us. Choropleth maps, like the ones below, are thematic maps. They colour or shade areas to represent different information and often make geographic patterns visible. This may be environmental conditions like rainfall, human conditions like population spread, or economic conditions like average household wealth.

This task will test your ability to interpret these patterns. Below are three choropleth maps that you should use to answer the following questions.

What are the climate conditions like in Bourke? (4 marks)

- Approximately 25 days per year have more than 1mm of rain
- Approximately 300mm of rain per year
- Approximately 30 degrees C average daily maximum temperature

Which region seems to be the wettest in Australia? (3 marks)

- Southwest Tasmania
- Award marks for justification using the first two maps
- Accept NE QLD coast, if sufficiently justified

Where would you expect to find large Australian rainforests? Why? (4 marks)

- NE QLD coast
- Award marks for justification using all **three** maps
- E.g., mixture of warmth and rainfall

Where would you expect to find large Australian deserts? Why? (3 marks)

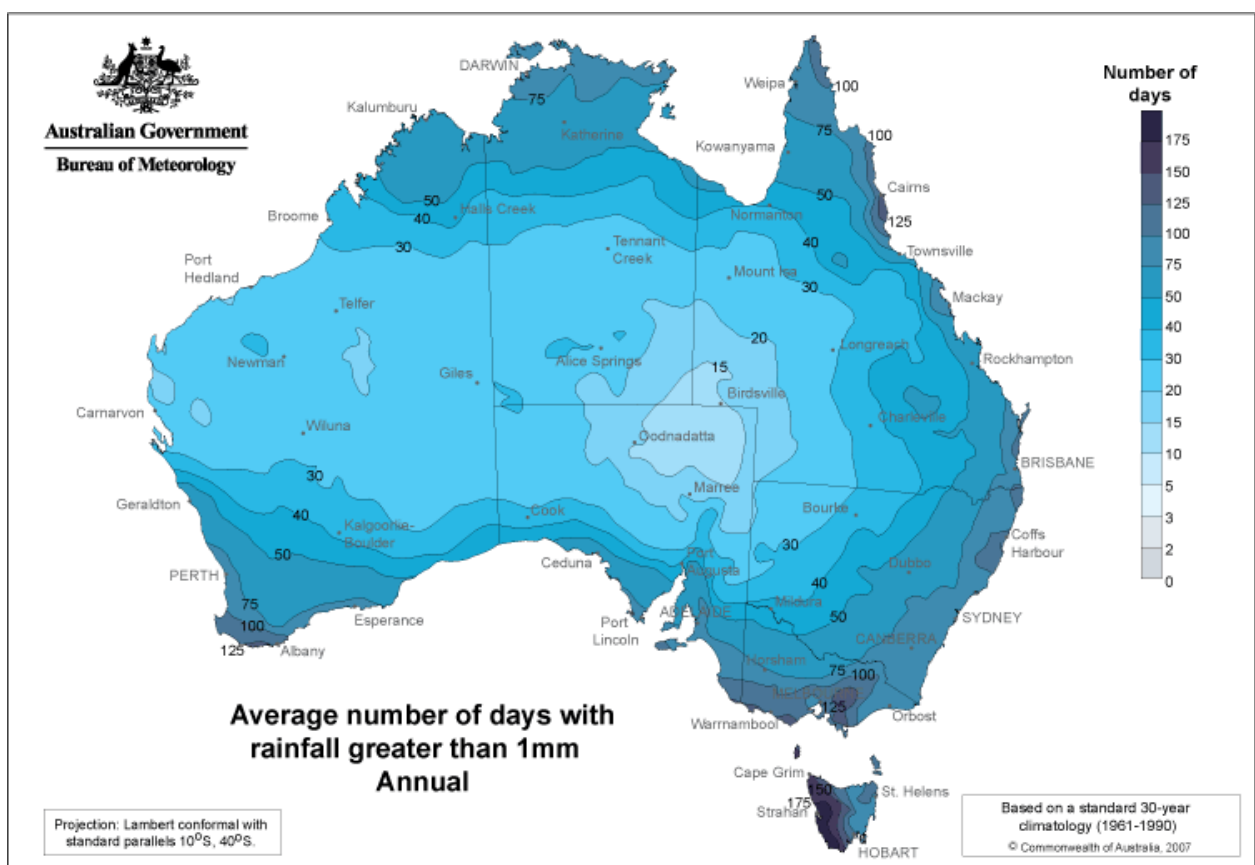
- Middle of country
- Award marks for justification using all **three** maps
- E.g., mixture of hot temperatures and low rainfall

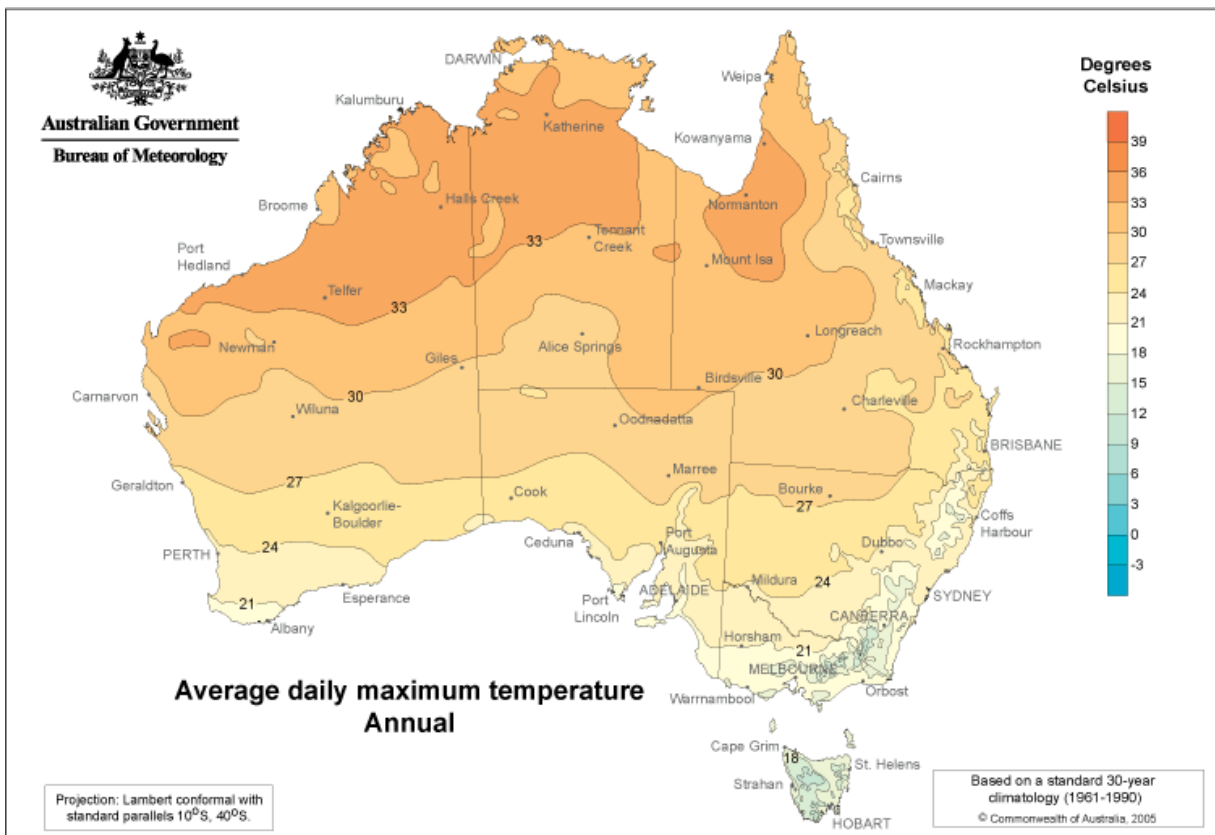
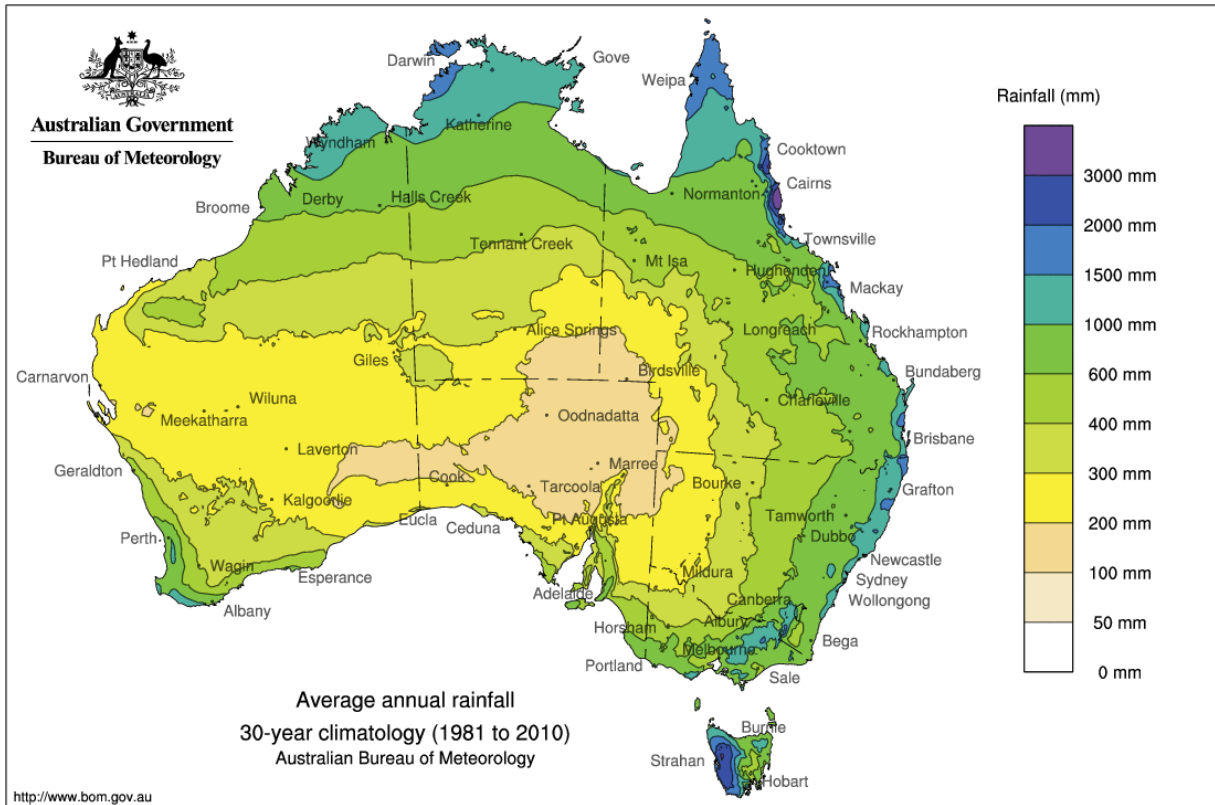
Can you name any of these major deserts? (2 marks)

- Simpson, Gibson, Great Sandy, etc. Award 2 marks for 2 examples.

What are some standard conventions that these maps are missing? Are they necessary in this case? (4 marks)

- Missing scale and orientation
- Best answers will explain that they are not necessary as they over clutter the map, readers will assume the North orientation and scale contributes little to understanding
- That is, the choropleth maps can effectively communicate their info (purpose), without these conventions





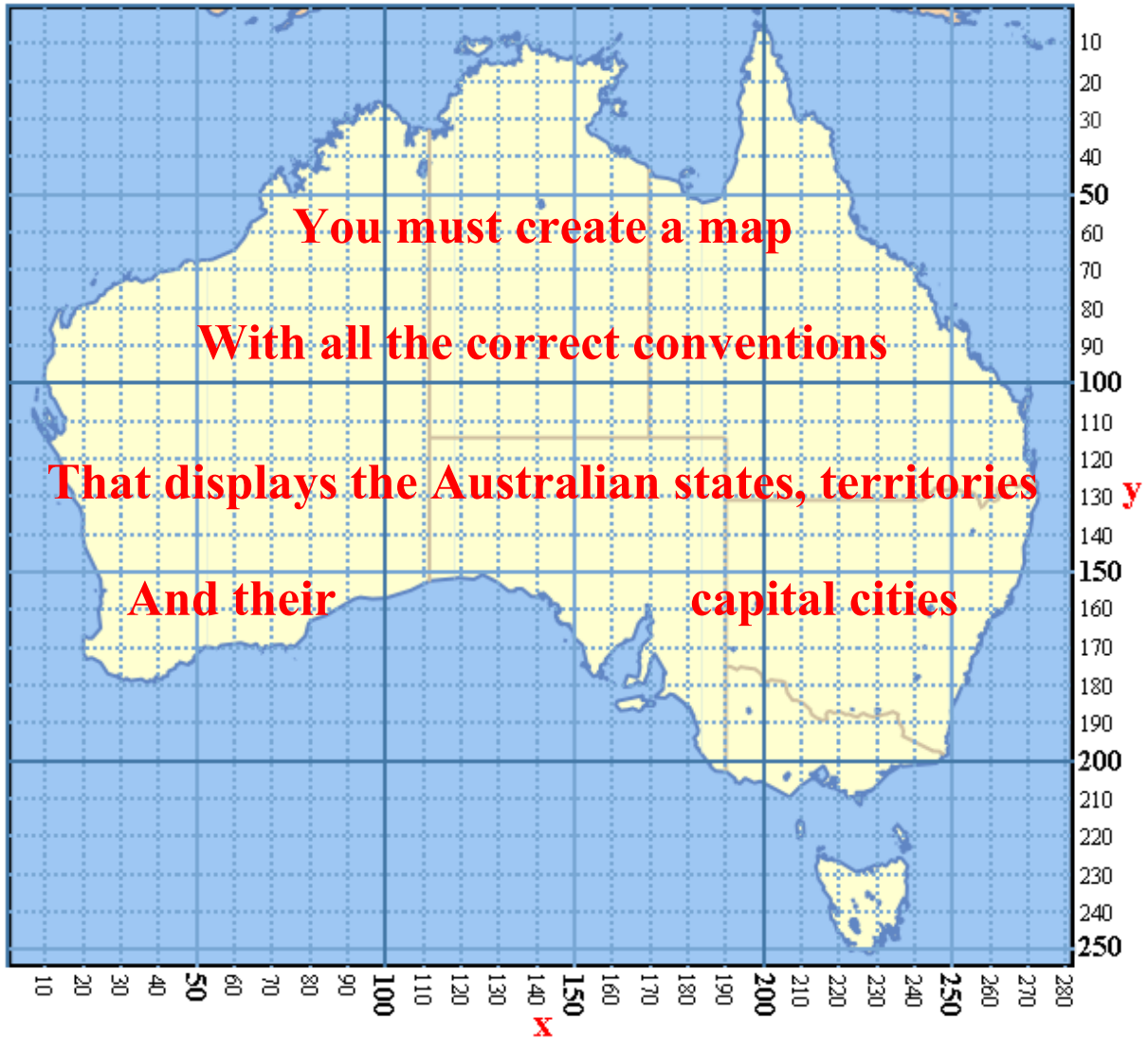
QUESTION THREE

PATTERNS WE CAN USE

PART A (10 MARKS)

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(210,70)	map
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(160,160)	capital
(140,60)	create
(20,160)	and
(60,130)	displays
(220, 150)	territories
(40,90)	with
(80,90)	all
(150,130)	Australian



PART B (10 MARKS)

Complete Part A in order to find the instructions for this task.

Use the box provided to complete your task. Marks will be awarded for detail, legibility and following the instructions correctly.

Award up to 10 marks for detail, legibility and for displaying all states, territories, and capital cities. Mark holistically, but consider the example below.

E.g., ½ mark for Border, Orientation, Legend, Title, Scale, Source

½ mark for each state and territory

Total of 3 marks for respective capital cities.

END OF PAPER