

Geographic Algebra

Algebra · Answer Key · 25 Questions

1. If the land area of Australia is approximately 7.7 million km² and the land area of Brazil is 8.5 million km², what is the difference in square kilometers?

- A) 0.8 million**
- B) 1.2 million
- C) 0.5 million
- D) 1.5 million

2. The distance between Tokyo and Sydney is roughly 7,800 km. If a plane travels at 600 km/h, what is the travel time in hours?

- A) 10
- B) 13**
- C) 15
- D) 12

3. The Nile River is approximately 6,650 km long, and the Amazon River is 6,400 km long. What is the total length of both rivers combined?

- A) 12,050 km
- B) 13,050 km**
- C) 13,150 km
- D) 12,950 km

4. If a country has a population of 50 million and a land area of 500,000 km², what is the population density (people per km²)?

- A) 50
- B) 100**
- C) 200
- D) 250

5. Mount Everest is 8,848 meters high and Mount K2 is 8,611 meters high. Calculate the height difference in meters.

- A) 237**
- B) 337
- C) 247
- D) 227

6. If 1,000 km is approximately 621 miles, how many miles is 5,000 km?

A) 3,105

B) 3,005

C) 3,205

D) 3,115

7. The surface area of the Earth is 510 million km², and the ocean covers 361 million km². What is the land area?

A) 149 million km²

B) 159 million km²

C) 169 million km²

D) 139 million km²

8. If the time difference between two cities is 3 hours, and it is 12:00 PM in the eastern city, what time is it in the western city?

A) 8:00 AM

B) 9:00 AM

C) 10:00 AM

D) 11:00 AM

9. The world population in 2023 was roughly 8 billion. If it grows by 0.8% annually, what is the approximate increase in millions after one year?

A) 64

B) 80

C) 6.4

D) 8

10. If the average temperature in a city in January is 10°C and it increases by 2°C each month for 5 months, what is the temperature in June?

A) 18°C

B) 20°C

C) 22°C

D) 24°C

11. The Great Barrier Reef is 2,300 km long. If a boat travels 230 km per day, how many days will it take to traverse the length?

A) 5

B) 10

C) 15

D) 20

12. If the ratio of land to water in a region is 1:3 and the total area is 400 km², how many square kilometers is the land?

A) 100

B) 133

C) 200

D) 300

13. A country's GDP is \$500 billion, and its population is 20 million. What is the GDP per capita?

A) \$20,000

B) \$25,000

C) \$30,000

D) \$35,000

14. If the latitude of the Equator is 0° and the Tropic of Cancer is 23.5° N, what is the angular difference between them?

A) 23.5°

B) 47°

C) 11.75°

D) 66.5°

15. A desert covers 9 million km², which is 6% of the Earth's land area (149 million km²). Which desert is this?

A) Gobi

B) Sahara

C) Arabian

D) Kalahari

16. If a flight lasts 8 hours and covers 7,200 km, what is the average speed of the plane?

A) 800 km/h

B) 900 km/h

C) 1,000 km/h

D) 1,100 km/h

17. The Arctic Circle is at 66.5° N. What is the latitude of the Antarctic Circle?

A) 66.5° S

B) 23.5° S

C) 45° S

D) 90° S

18. If 1 hectare equals 0.01 km^2 , how many hectares are in 5 km^2 ?

- A) 50
- B) 500**
- C) 5,000
- D) 50,000

19. A city has 2 million cars. If $\frac{1}{4}$ of them are electric, how many electric cars are there?

- A) 250,000
- B) 500,000**
- C) 750,000
- D) 1,000,000

20. If the distance around the Equator is 40,075 km, what is the distance of a semicircle?

- A) 20,037.5 km**
- B) 20,075 km
- C) 19,037.5 km
- D) 21,037.5 km

21. If a country has 500 islands and 20% are inhabited, how many islands are inhabited?

- A) 50
- B) 80
- C) 100**
- D) 120

22. A mountain range extends 1,500 km. If it is mapped at a scale where $1 \text{ cm} = 50 \text{ km}$, how long is the range on the map?

- A) 20 cm
- B) 30 cm**
- C) 40 cm
- D) 50 cm

23. If the depth of a trench is 10,000 meters and the height of a nearby mountain is 5,000 meters, what is the vertical span?

- A) 5,000 m
- B) 10,000 m
- C) 15,000 m**
- D) 20,000 m

24. The volume of water in a lake is 500 km³. If 50 km³ evaporates, what percentage of the original volume remains?

A) 80%

B) 85%

C) 90%

D) 95%

25. If a region receives 1,200 mm of rain annually, what is the average monthly rainfall in mm?

A) 80

B) 100

C) 120

D) 150