P6 General Studies Practice Paper: Puberty Health and Emotions, Hong Kong Economy and International Trade, Energy and Renewables, Space Exploration and Astronomy, Disease Prevention and Public Health, Global Issues and Sustainable Development

P6 | General Studies | Time: 50 minutes | Total: 100 marks | 24 questions

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Part A: Puberty Health and Emotions (18 marks)

Show your working or give a reason; write the units in your answer.

1. A student is 148 cm tall at age 12 and 164 cm tall at age 14. What is his average height increase per year over these two years? [5]

Answer: Total increase = 164 - 148 = 16 cm. Average per year = 16 / 2 = 8 cm.

2. Doctors advise teenagers aged 11 to 13 to sleep 9 hours a day. How many hours is that in one week (7 days)? [5]

Answer: 9 x 7 = 63 hours.

3. Mei wrote an emotion diary on 24 days out of a 30-day month. What percentage of the month did she record? [4]

Answer: Recording rate = 24 / 30 x 100% = 80%.

4. Ming has a resting heart rate of 72 beats per minute, rising to 132 after running. By what percentage did his heart rate increase? (1 decimal place) [4]

Answer: Increase = 132 - 72 = 60 bpm; percentage = 60 / 72 x 100% = 83.3%.

Part B: Hong Kong Economy and International Trade (18 marks)

Show your working or give a reason; write the units in your answer.

5. In a year Hong Kong imports totalled $4,200 billion and exports totalled $3,900 billion. What was the trade deficit that year? [5]

Answer: Trade deficit = imports - exports = 4,200 - 3,900 = 300 billion dollars.

6. An item costs $80 and is sold for $100. What is the profit percentage on cost? [5]

Answer: Profit = 100 - 80 = $20; profit percentage = 20 / 80 x 100% = 25%.

7. Under the linked exchange rate, US$1 = HK$7.8. How many Hong Kong dollars can US$250 be exchanged for? [4]

Answer: 250 x 7.8 = HK$1,950.

8. A city received 5,600 million visitor arrivals with average spending of $6,000 each. What was the total visitor spending in billion dollars? [4]

Answer: Total = 5,600 million x $6,000 = $3,360 billion.

Part C: Energy and Renewables (16 marks)

Show your working or give a reason; write the units in your answer.

9. A 250 W fan runs for 8 hours. How much electricity does it use in kWh? [4]

Answer: Energy = 250 x 8 / 1000 = 2.0 kWh.

10. A household uses 150 kWh in a month at $1.2 per kWh. What is the electricity bill for that month? [4]

Answer: 150 x $1.2 = $180.0.

11. A 400 W solar panel receives 5 hours of effective sunlight a day. How many kWh does it generate daily? [4]

Answer: Generation = 400 x 5 / 1000 = 2.0 kWh.

12. Replacing a 60 W filament bulb with a 12 W LED used 6 hours a day saves how many kWh per day? [4]

Answer: Saving = (60 - 12) x 6 / 1000 = 0.288 kWh.

Part D: Space Exploration and Astronomy (16 marks)

Show your working or give a reason; write the units in your answer.

13. The Sun is about 150,000,000 km from the Earth and light travels at about 300000 km/s. How many seconds, and minutes and seconds, does sunlight take to reach the Earth? [4]

Answer: Time = 150,000,000 / 300000 = 500 s = 8 min 20 s.

14. The International Space Station orbits the Earth once every 90 minutes. How many orbits does it complete in one day (24 hours)? [4]

Answer: 24 hours = 1440 minutes; 1440 / 90 = 16 orbits.

15. A day on Mars lasts about 24.6 hours. How many hours and minutes longer is it than a day on Earth? [4]

Answer: 24.6 - 24 = 0.6 hours = 36 minutes.

16. A rocket travels at an average speed of 8 km/s. How many seconds does it take to fly 400 km? [4]

Answer: 400 / 8 = 50 seconds.

Part E: Disease Prevention and Public Health (16 marks)

Show your working or give a reason; write the units in your answer.

17. Health advice is to wash hands for at least 20 seconds each time. If you wash your hands 8 times a day, how many seconds is that in total, in minutes and seconds? [4]

Answer: 20 x 8 = 160 s = 2 min 40 s.

18. 32 out of 40 pupils in a class have had the flu vaccination. What is the vaccination rate? [4]

Answer: 32 / 40 x 100% = 80%.

19. A patient has a temperature of 38.5 C, while normal body temperature is about 37.0 C. How many degrees above normal is it? [4]

Answer: 38.5 - 37.0 = 1.5 C.

20. A box holds 50 masks and 2 are used each day. How many days does one box last? [4]

Answer: 50 / 2 = 25 days.

Part F: Global Issues and Sustainable Development (16 marks)

Show your working or give a reason; write the units in your answer.

21. A family uses 35 plastic bags a week. How many bags do they use in a year (52 weeks)? [4]

Answer: 35 x 52 = 1,820 bags.

22. An estate produces 100 kg of waste a month, of which 28 kg is recycled. What is the recycling rate? [4]

Answer: 28 / 100 x 100% = 28%.

23. A car emits 120 g of carbon dioxide per km. If it travels 30 km a day, how many kg does it emit in a year (365 days)? [4]

Answer: Yearly = 120 x 30 x 365 / 1000 = 1,314 kg.

24. A shower uses 10 litres a minute. How many litres are used in a 8-minute shower, and how much is saved by shortening it to 5 minutes? [4]

Answer: Original 8 x 10 = 80 L; shortened 5 x 10 = 50 L; saving 30 L.
