S4 Physical Education Practice Paper With Answers - TutorZone Skip to content /en-s4-physical-education-fitness-bmi-waist-hip-energy-system-heart-rate-training-volume-basketball-shooting-injury-rehab-facility-cost-practice-paper/?r=1794791355 /en-s4-physical-education-fitness-bmi-waist-hip-energy-system-heart-rate-training-volume-basketball-shooting-injury-rehab-facility-cost-practice-paper/?r=1794791355 info@tutorzone.com.hk +852-6828 1809 Business Registration Certificate Number:41487633 Follow Us : Register / Login --> Register/Login --> Teacher Login Home Tutoring Home Tutoring Private Tutor IB Tutor DSE Tutor Curriculum Map Tutor Resources Study Hub English English Register / Login --> Teacher Login Home Home Tutoring Our home tutoring service offers personalized, one-on-one support from licensed and experienced tutors. With home tutoring, students can learn comfortably at their own pace in a familiar environment. We cover subjects like math, English, and science, tailoring each session to meet individual needs. Home tutoring helps improve focus, boost confidence, and raise academic performance. Parents receive regular progress updates. Choose our trusted home tutoring service to give your child the support they need to succeed in school and beyond. Act Now: Find a Tutor / Register as a Tutor Find a Tutor Now - Free Tutor Registration Private Tutor Our Private Tutor services offer personalized, one-on-one instruction from licensed and experienced tutors. Each Private Tutor is carefully vetted to ensure they have the necessary credentials and teaching expertise. Whether your child needs help with math, English, science, or preparing for exams, our Private Tutor will create a tailored plan to meet their unique needs. With flexible scheduling and convenient at-home or online lessons, our Private Tutor services are designed to improve academic performance and build confidence. Choose a professional Private Tutor today to support your child's success. Act Now: Find a Tutor / Register as a Tutor Find a Tutor Now - Free Tutor Registration IB Tutor Our IB Tutor services provide expert, one-on-one instruction for students pursuing the International Baccalaureate program. Each IB Tutor is highly qualified and experienced in the IB curriculum, ensuring personalized lessons tailored to meet individual academic needs. Whether you're looking for an IB Tutor to improve subject knowledge, enhance study skills, or prepare for exams, our IB Tutor will guide you every step of the way. Trust our IB Tutor services to help your child succeed in the rigorous IB program. Choose an experienced IB Tutor today! Act Now: Find a Tutor / Register as a Tutor Find a Tutor Now - Free Tutor Registration DSE Tutor Our DSE Tutor services offer specialized, one-on-one support for students preparing for the Hong Kong Diploma of Secondary Education (DSE). Each DSE Tutor is highly qualified and experienced in the DSE curriculum, providing personalized lessons to address individual strengths and weaknesses. Whether you need help with specific subjects or exam preparation, our DSE Tutor will guide you to success. Trust our DSE Tutor services to enhance your academic performance and boost your confidence for the DSE exams. Choose a dedicated DSE Tutor today! Act Now: Find a Tutor / Register as a Tutor Find a Tutor Now - Free Tutor Registration About Us About TutorZone Tutor & Coach Recruitment Email: Admin@tutorzone.com.hk Tuition Fee and Payment Tutor Fees Latest Offers & Promotions Payment Methods Fee Reference ors Matching Process Privacy Policy Instant Support: +852 9061 3106 --> General Inquiry: info@TutorZone.com.hk Office Hours: Monday to Saturday - 9:00 AM to 6:00 PM WhatsApp Monday to Sunday - 24 hours Hotline: +852 6828 1809 Instant Support: +852 9061 3106 x S4 Physical Education Practice Paper with Answers Home S4 Physical Education Practice Paper with Answers S4 Physical Education Practice Paper with Answers Mark Alen Comment 4 --> 2026-11-16 Physical Education - S4 - Data-response S4 PE practice paper with answers: body composition, energy systems, heart rate, training volume, basketball stats, injury rehab and facility costs. Download | Answer key PDF Paper details Part 1: Body composition and body mass index Data A (simulated): an S4 boy is 1.72 m tall and weighs 68.5 kg; his waist measures 82 cm and his hips 96 cm; his body fat is 18.5%. Study the data and answer all parts. # Question Answer and marking notes 1 Calculate the body mass index (BMI) of the student. Give the answer to one decimal place. Answer: BMI = weight / height^2 = 68.5 / 1.72^2 = 68.5 / 2.9584 = 23.2 kg/m2. 2 Calculate the waist-to-hip ratio (waist / hip) of the student. Give the answer to two decimal places. Answer: waist-to-hip ratio = 82 / 96 = 0.85. 3 Using the Asian adult male standard (BMI 18.5 to 22.9 is normal and 23.0 to 24.9 is overweight), state the weight category of the student and give two health risks associated with overweight. Answer: the BMI is 23.2, within 23.0 to 24.9, so the student is overweight. Risks (any two): higher risk of hypertension and cardiovascular disease; higher risk of type 2 diabetes; extra load on the knees and lumbar spine; higher risk of sleep apnoea. (2 marks each) 4 Suggest two specific ways to improve the body composition of the student and explain how each works. Answer: (1) aerobic exercise 3 to 4 times a week for at least 30 minutes, such as jogging or swimming, which raises energy expenditure and lowers fat mass; (2) progressive resistance training twice a week, such as squats and push-ups, which builds muscle mass and

raises resting metabolic rate. (1 mark for each method, 1 for each explanation) Part 2: Energy systems and heart-rate intensity Data B (simulated): a 15-year-old student has a resting heart rate of 62 beats per minute. He runs for 30 minutes at an average heart rate of 158 beats per minute. Maximum heart rate can be estimated as 220 minus age. Study the data and answer all parts. # Question Answer and marking notes 5 Calculate the maximum heart rate of the student. Answer: 220 - 15 = 205 beats per minute. 6 Calculate the percentage of heart-rate reserve (intensity) during the run. Give the answer to one decimal place. Answer: heart-rate reserve = 205 - 62 = 143; intensity = (158 - 62) / 143 x 100% = 67.1%. 7 State which energy system mainly supplies energy during the 30-minute run and explain why. Answer: the aerobic system, because the run is long (30 minutes) at moderate intensity (about 67.1% of heart-rate reserve), so oxygen supply is sufficient for continuous aerobic metabolism of fat and carbohydrate. 8 If the training target is 60%% to 80%% of heart-rate reserve, calculate the target heart-rate range of the student (whole numbers). Answer: lower = 62 + 0.6 x 143 = 147.8, about 148; upper = 62 + 0.8 x 143 = 176.4, about 176; target range 148 to 176 beats per minute. Part 3: Training volume and progressive overload Data C (simulated): a student trains 4 days a week for 45 minutes each time, of which 30 minutes is moderate-to-vigorous activity; he also does resistance training 3 times a week, 8 sets each time. The World Health Organization recommends that adolescents accumulate an average of 60 minutes of moderate-to-vigorous activity a day. Study the data and answer all parts. # Question Answer and marking notes 9 Calculate the weekly total training time and the weekly moderate-to-vigorous activity time. Answer: total training time = 4 x 45 = 180 minutes; moderate-to-vigorous activity = 4 x 30 = 120 minutes. 10 Calculate the weekly moderate-to-vigorous activity as a percentage of the WHO weekly recommendation and state the shortfall. Answer: WHO weekly recommendation = 60 x 7 = 420 minutes; 120 / 420 x 100% = 28.6%; shortfall = 420 - 120 = 300 minutes. 11 Explain the principle of progressive overload and illustrate it with the resistance training of the student. Answer: progressive overload means steadily increasing the training stimulus (load, sets, repetitions or density) as the body adapts, so adaptation continues. For example, once he can complete all 8 sets of 12 repetitions comfortably, he may raise the load by 5% to 10% or add 1 to 2 sets every two weeks (currently 24 sets). 12 Suggest two ways to avoid overtraining. Answer: (1) schedule at least 1 to 2 full rest or low-intensity days each week for recovery; (2) alternate muscle groups or activity types and monitor resting heart rate and sleep quality, cutting training volume when persistent fatigue, insomnia or falling performance appears. (2 marks each) Part 4: Basketball game statistics Data D (simulated): player A scored 24 of 9 field-goal attempts and 8 of 6 free throws in 32 minutes; player B scored 30 of 12 field-goal attempts and 4 of 3 free throws in 28 minutes. Assume every made field goal is worth two points. Study the data and answer all parts. # Question Answer and marking notes 13 Calculate the field-goal percentage of both players. Give the answers to one decimal place. Answer: A = 9 / 24 x 100% = 37.5%; B = 12 / 30 x 100% = 40.0%. 14 Calculate the free-throw percentage of both players. Answer: A = 6 / 8 x 100% = 75.0%; B = 3 / 4 x 100% = 75.0%. 15 Calculate the total points scored by both players. Answer: A = 9 x 2 + 6 = 24 points; B = 12 x 2 + 3 = 27 points. 16 Using points per minute played, decide which player is the more efficient scorer and support your answer with one figure. Answer: A = 24 / 32 = 0.75 points per minute; B = 27 / 28 = 0.96 points per minute; B is the more efficient scorer because he scores more per minute (0.96 against 0.75). Part 5: Sports injury and rehabilitation progress Data E (simulated): a student sprains his right ankle playing basketball. The doctor advises immediate RICE treatment and expects a 6-week recovery: 40%% in the first two weeks, a further 35%% in weeks 3 to 4, and the rest in weeks 5 to 6. Study the data and answer all parts. # Question Answer and marking notes 17 State what each letter of RICE stands for. Answer: R = Rest; I = Ice; C = Compression; E = Elevation. 18 Calculate the cumulative percentage recovered by the end of week 4, and the average percentage points still needed per week in weeks 5 to 6. Answer: by the end of week 4 = 40% + 35% = 75%; remaining = 100% - 75% = 25%; average per week = 25% / 2 = 12.5 percentage points. 19 If only 60%% recovery is achieved by the end of week 4, how many percentage points behind the plan is that? Answer: 75% - 60% = 15 percentage points behind the plan. 20 Suggest two ways to reduce the risk of spraining the ankle again. Answer: (1) after recovery, do balance and proprioception training such as single-leg stands or a wobble board to restore joint stability; (2) warm up fully before activity, use an ankle brace or taping when needed, and increase training intensity gradually. (2 marks each) Part 6: Cost-effectiveness of sports facilities Data F (simulated): a district has a population of 480,000, including 54,000 people aged 12 to 18; it has 3 sports centres with 96,000 visits a month and a monthly operating cost of HK$2,340,000, of which young people account for 38%. Study the data and answer all parts. # Question Answer and marking notes 21 Calculate the monthly visits by young people and the average number of visits per young

person per month (two decimal places). Answer: youth visits = 96,000 x 38% = 36,480; per young person = 36,480 / 54,000 = 0.68 visits. 22 Calculate the current average cost per visit (one decimal place). Answer: 2,340,000 / 96,000 = HK$24.4. 23 If visits rise by 15%% while operating cost stays the same, calculate the new monthly visits, the new average cost per visit and the saving per visit. Answer: new visits = 96,000 x 1.15 = 110,400; new average cost = 2,340,000 / 110,400 = HK$21.2; saving = 24.4 - 21.2 = HK$3.2. 24 Suggest two measures to raise the sports-centre usage rate among young people in the district and explain the reasoning. Answer: (1) offer youth discount sessions and group classes after school to lower time and cost barriers; (2) partner with local schools on inter-school competitions and training schemes, linking the facilities to PE curricula, which raises usage and spreads the average cost. (1 mark for each measure, 2 marks for each reason) Find a tutor - free Tutor Registration -> A TutorZone practice paper; original questions and passages, not publisher material. --> Enquiry: info@TutorZone.com.hk Office: Monday to Saturday - 9am to 6pm WhatsApp Monday to Sunday -24 hours HotLine: +852 6828 1809 Customer Service: +852 9061 3106 About Us About TutorZone Tutor & Coach Recruitment Hiring: Customer Service Officer Email: Admin@tutorzone.com.hk Tuition Fee and Payment Tutor Fees Latest Offers & Promotions Payment Methods Fee Reference Support and Assistance FAQs for Parents FAQs for Tutors Matching Process Privacy Policy Customer Service: +852 9061 3106 --> (c)2026 TutorZone. All rights reserved. | Worksheets and lesson-prep guides are for personal study and teaching use only; no resale or redistribution. Service Process FAQ Tuition Reference Tutor Fees About Us Contact Us Privacy Policy Service Process | FAQ | Tuition Reference | Tutor Fees | About Us | Contact Us | Privacy Policy x Start chat -> Login Register Login Don't have an account? Register Remember me Forgot password? Register Already have an account? Login Join as a tutor or coach - academic, music, sports, arts, STEM. Free to register. See how it works ->