

Placement Self-Assessment Test

Grade 6 Test — for students applying to enter Grade 7

Mathematics (Q1–45) • Physics (Q46–60) • Chemistry (Q61–75) • Biology (Q76–90) • 90 questions

Student name:	Date:	Programme code: 12
Grade applying for: 7	Total score: / 90	Signature:

Subject	Mathematics	Physics	Chemistry	Biology	Total
Score (optional)	/ 45	/ 15	/ 15	/ 15	/ 90

Placement Self-Assessment Test

This test is for self-assessment only. It is not included in your official transcript and does not affect your academic record.

- There is no time limit.
- You may use any learning resources, including books, notes, and a calculator, provided that you solve each question yourself and use the resources to improve your own understanding.
- Do not ask another person for answers and do not use artificial intelligence to answer the questions. The purpose of this test is to discover your real level of understanding, not simply to obtain a high score.
- Each correct answer receives **1 point**.
- Each incorrect answer receives a penalty of **–1/3 point**.
- An unanswered question receives **0 points**.
- The suggested passing score is **50 points**.
- You may decide for yourself whether you are ready to move to the next grade or whether it would be better to continue strengthening the current grade first.
- There is no required minimum score in each individual subject. Your subject-by-subject results should help you identify your strengths and the subjects that need more work.
- For example, if you are strong in Mathematics but weak in Chemistry, this test helps us identify the learning materials and support needed to balance your studies.
- Other school subjects are also important. They are not included in this test because Mathematics and Science usually require more teacher guidance and additional practice.

Instructions for Using the Question Booklet and Answer Sheet

Do not write your answers in the question booklet. Each student has an individual answer sheet and must mark all answers only on that answer sheet.

At the top of the answer sheet, enter or mark **12** as the programme code. This code is for the educational programme for Grades 7 to 12.

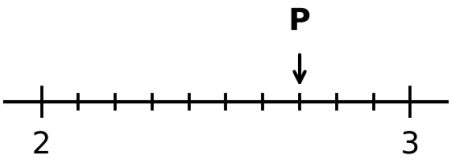
For placement purposes, each student must take the test for one grade below the grade they wish to enter:

- Students applying for Grade 7 take the Grade 6 test.
- Students applying for Grade 8 take the Grade 7 test.
- Students applying for Grade 9 take the Grade 8 test.
- Students applying for Grade 10 take the Grade 9 test.
- Students applying for Grade 11 take the Grade 10 test.
- Students applying for Grade 12 take the Grade 11 test.

Before starting the test, make sure that your name, personal information, and programme code **12** are correctly entered on your individual answer sheet.

Each question has four options (A, B, C, D) and exactly one correct answer. Use $g = 10 \text{ m/s}^2$ unless a question states otherwise.

Mathematics (Questions 1–45)	
1. What is the value of the digit 7 in the number 3,475,280? A) 7,000 B) 700 C) 700,000 D) 70,000	5. Which of the following is the prime factorisation of 84? A) $2^3 \times 3 \times 7$ B) $2^2 \times 3 \times 7$ C) 4×21 D) $2 \times 3 \times 14$
2. Which number is written as XLIX in Roman numerals? A) 39 B) 49 C) 51 D) 71	6. How many factors does the number 36 have? A) 6 B) 8 C) 9 D) 10
3. The population of a city is 2,846,315. What is this number rounded to the nearest thousand? A) 2,846,300 B) 2,850,000 C) 2,847,000 D) 2,846,000	7. Which fraction is equal to $\frac{3}{4}$? A) $\frac{15}{24}$ B) $\frac{9}{16}$ C) $\frac{6}{12}$ D) $\frac{18}{24}$
4. Which number is divisible by 3 but NOT divisible by 9? A) 2,412 B) 3,051 C) 1,245 D) 4,327	8. Which of these fractions is the largest? A) $\frac{7}{12}$ B) $\frac{3}{5}$ C) $\frac{2}{3}$ D) $\frac{5}{8}$
	9. What is the value of 4.5×0.2 ? A) 9 B) 0.09 C) 0.9 D) 4.7

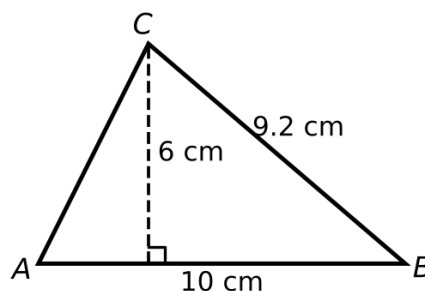
10. Which decimal number is the greatest?
A) 0.699 B) 0.7 C) 0.075 D) 0.65
11. What number does point P show on the number line below?
- 
- A) 2.07 B) 3.7 C) 2.7 D) 2.6
12. What is $2\frac{1}{3} + 1\frac{3}{4}$?
A) $4\frac{1}{12}$ B) $3\frac{1}{12}$ C) $3\frac{4}{7}$ D) $4\frac{4}{7}$
13. Zahra has 24 apples and 36 pomegranates. She wants to pack them into identical bags so that every bag has the same number of apples and the same number of pomegranates, with no fruit left over. What is the greatest number of bags she can make?
A) 4 B) 6 C) 12 D) 72
14. Two buses leave a station in Mazar-i-Sharif together at 7:00. One bus leaves every 12 minutes and the other every 18 minutes. At what time will they next leave together?
A) 7:36 B) 7:06 C) 8:00 D) 7:30
15. 25% of 840 AFN is:
A) 815 AFN B) 25 AFN C) 336 AFN D) 210 AFN
16. In a farmer's field, $\frac{2}{5}$ of the land is planted with wheat. Of the wheat land, $\frac{3}{4}$ is irrigated. What fraction of the WHOLE field is irrigated wheat land?
A) $\frac{3}{10}$ B) $\frac{3}{20}$ C) $\frac{5}{9}$ D) $\frac{1}{4}$
17. How many glasses of $\frac{1}{4}$ litre can be filled from $3\frac{1}{2}$ litres of dough?
A) 10 B) 14 C) $\frac{7}{8}$ D) 12
18. A bus leaves Kabul at 8:45 and arrives in Jalalabad at 11:20 on the same morning. How long is the journey?
A) 2 h 35 min B) 3 h 35 min
C) 2 h 25 min D) 3 h 25 min
19. A road is 3.2 km long. Workers add another 750 m to it. What is the new length of the road in metres?
A) 4,020 m B) 3,275 m C) 10,700 m D) 3,950 m
20. 2.5 kg of flour is shared equally into 5 bags. What is the mass of flour in each bag?
A) 500 g B) 0.5 g C) 50 g D) 5,000 g
21. A jacket in a Herat shop costs 1,200 AFN. The shop gives a 15% discount. What is the new price?
A) 1,185 AFN B) 180 AFN
C) 1,020 AFN D) 1,050 AFN
22. In a class of 40 students, the ratio of boys to girls is 3 : 5. How many girls are in the class?
A) 8 B) 15 C) 24 D) 25

23. The table shows the prices of rice bags. Which bag gives the LOWEST price per kilogram?

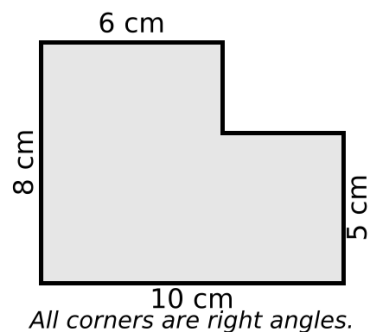
Rice prices at a shop in Mazar-i-Sharif

Bag size	Price
1 kg	95 AFN
2 kg	180 AFN
5 kg	425 AFN
10 kg	880 AFN

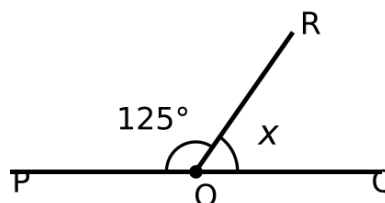
- A) the 5 kg bag B) the 2 kg bag
C) the 10 kg bag D) the 1 kg bag
24. Karim buys 3 notebooks at 45 AFN each and 2 pens at 30 AFN each. He pays with a 500 AFN note. How much change should he receive?
A) 305 AFN B) 425 AFN C) 195 AFN D) 335 AFN
25. A field is 35 m long and 20 m wide. A farmer puts 3 rows of wire all the way around the field. How much wire does he need?
A) 700 m B) 330 m C) 110 m D) 165 m
26. A classroom floor is 8 m long and 6 m wide. Carpet costs 350 AFN per square metre. What is the cost of carpeting the whole floor?
A) 9,800 AFN B) 4,900 AFN
C) 16,800 AFN D) 2,100 AFN
27. What is the area of triangle ABC?



- A) 30 cm^2 B) 46 cm^2 C) 92 cm^2 D) 60 cm^2
28. What is the area of the shape below?

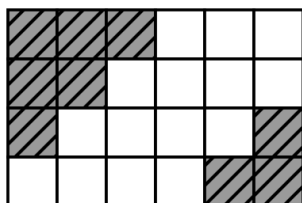


- A) 80 cm^2 B) 68 cm^2 C) 56 cm^2 D) 36 cm^2
29. In the figure, POQ is a straight line. What is the size of angle x?

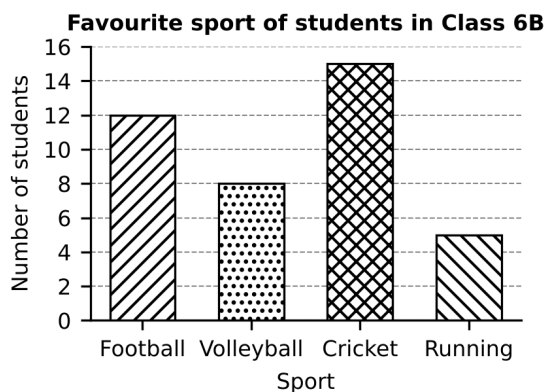


- A) 125° B) 65° C) 55° D) 235°

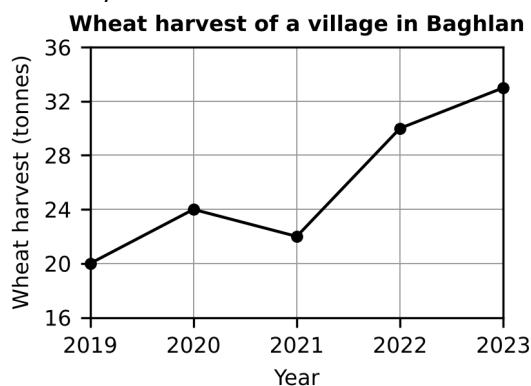
30. Two angles of a triangle are 48° and 67° . What is the third angle?
 A) 65° B) 75° C) 245° D) 115°
31. A triangle has sides of 5 cm, 5 cm and 8 cm. What type of triangle is it?
 A) scalene B) isosceles
 C) right-angled D) equilateral
32. Which quadrilateral ALWAYS has four equal sides but does NOT always have right angles?
 A) rectangle B) kite
 C) trapezium D) rhombus
33. What percentage of the grid below is shaded?



- A) 15% B) 9% C) 37.5% D) 62.5%
34. The bar chart shows the favourite sports of the students in Class 6B. What fraction of the students chose football?

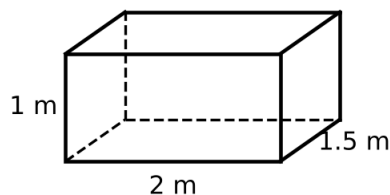


- A) $3/10$ B) $12/100$ C) $1/4$ D) $3/7$
35. The midday temperatures in Kabul on five days were 12°C , 15°C , 9°C , 14°C and 10°C . What was the mean (average) temperature?
 A) 60°C B) 9°C C) 13°C D) 12°C
36. The graph shows a village's wheat harvest. Between which two years did the harvest increase the MOST?



- A) 2019 and 2020 B) 2022 and 2023
 C) 2020 and 2021 D) 2021 and 2022

37. A water tank has the shape of a cuboid, as shown. How many litres of water can it hold when full? ($1\text{ m}^3 = 1,000$ litres)

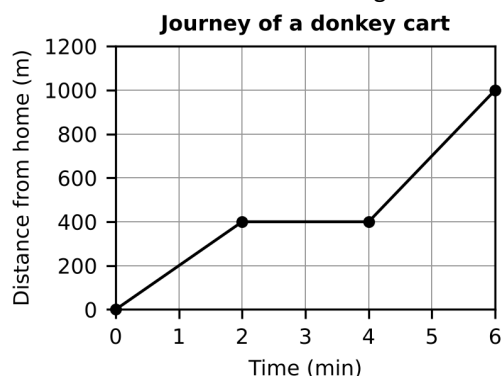


- A) 30,000 litres B) 3,000 litres
 C) 300 litres D) 4,500 litres
38. A box measures $20\text{ cm} \times 10\text{ cm} \times 10\text{ cm}$. How many cubes with edges of 5 cm can fit exactly inside it?
 A) 8 B) 16 C) 40 D) 80
39. A bicycle wheel has a diameter of 70 cm. How many complete turns does it make when the bicycle travels 110 m? (Use $\pi = 22/7$.)
 A) 100 B) 25 C) 50 D) 157
40. Walking at the same speed, Hamid takes 4 minutes to walk once around a square park. How long will he take to walk once around a square park whose AREA is 4 times as large?
 A) 8 minutes B) 12 minutes
 C) 16 minutes D) 4 minutes
41. What is the next number in the pattern 3, 7, 15, 31, ...?
 A) 45 B) 47 C) 62 D) 63
42. A number is multiplied by 4, and then 7 is added. The result is 43. What is the number?
 A) 36 B) 9 C) 12.5 D) 10
43. Using each of the digits 0, 3, 5 and 8 exactly once, Laila makes the largest possible 4-digit number that is divisible by 5. What number does she make?
 A) 8,350 B) 8,530 C) 8,305 D) 5,830
44. Nasrin spent $1/3$ of her money on books, then $1/4$ of the money that remained on food. She had 300 AFN left. How much money did she have at the start?
 A) 500 AFN B) 1,200 AFN
 C) 720 AFN D) 600 AFN
45. The product of two numbers is 180 and their highest common factor (HCF) is 6. What is their lowest common multiple (LCM)?
 A) 1,080 B) 30 C) 174 D) 186

Physics (Questions 46–60)

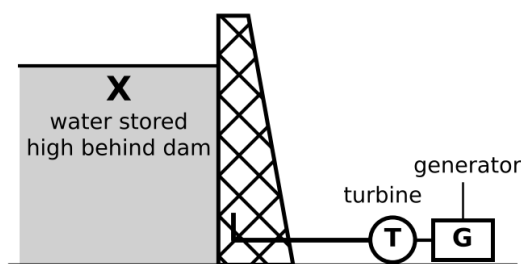
46. Which statement best describes motion?
 A) a push that is always the same size
 B) a change in the position of an object over time
 C) the distance between two cities
 D) the amount of matter in an object
47. Which unit is used to measure force?
 A) second (s) B) metre (m)
 C) newton (N) D) kilogram (kg)
48. A cyclist rides 18 km in 1.5 hours. What is his average speed?
 A) 27 km/h B) 12 km/h
 C) 16.5 km/h D) 10 km/h

49. The graph shows a donkey cart's journey. During which time interval was the cart NOT moving?



- A) the cart moved all the time
 B) from 2 min to 4 min
 C) from 0 min to 2 min
 D) from 4 min to 6 min
50. Two boys push the same box from opposite sides. Each pushes with a force of 50 N. What happens to the box?
 A) It stays at rest, because the forces are balanced.
 B) It moves toward the boy who pushed first.
 C) It moves with a force of 50 N.
 D) It moves with a force of 100 N.
51. Rahim pulls a cart toward the east with a force of 120 N. Friction acts on the cart with a force of 30 N toward the west. What is the net (resultant) force on the cart?
 A) 120 N toward the east
 B) 150 N toward the east
 C) 90 N toward the east
 D) 90 N toward the west
52. Why does an apple fall from a tree to the ground?
 A) The air pushes it down.
 B) Its mass becomes larger when it ripens.
 C) The tree pushes it away.
 D) The Earth's gravitational force pulls it down.
53. A bag of rice has a mass of 10 kg in Kabul. If the same bag is taken to the Moon, what will its mass be?
 A) 10 kg B) 60 kg
 C) 0 kg D) about 1.7 kg
54. A sack of potatoes has a mass of 25 kg. What is its weight on Earth? ($g = 10 \text{ N/kg}$)
 A) 35 N B) 2.5 N C) 25 N D) 250 N
55. Energy is best described as:
 A) the size of a force
 B) the mass of an object
 C) the speed of an object
 D) the ability to do work
56. A solar panel on a house in Kandahar changes:
 A) light energy into electrical energy
 B) sound energy into electrical energy
 C) chemical energy into heat energy
 D) electrical energy into light energy

57. In the hydroelectric power station shown, which type of energy does the water mainly have at point X?

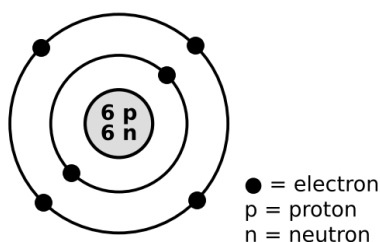


- A) gravitational potential energy
 B) sound energy
 C) chemical energy
 D) electrical energy
58. Which energy source is renewable and produces almost no air pollution?
 A) coal B) diesel
 C) natural gas D) solar energy
59. In winter, drivers put chains on their tyres when the road through the Salang Pass is icy. Why?
 A) to make the vehicle lighter
 B) to increase friction between the tyres and the road
 C) to reduce friction so the vehicle moves faster
 D) to keep the tyres warm
60. Ali runs 100 m in 20 s. Bilal runs 150 m in 25 s. Which statement is correct?
 A) They run at the same speed.
 B) Bilal is faster; his speed is 5 m/s.
 C) Bilal is faster; his speed is 6 m/s.
 D) Ali is faster; his speed is 5 m/s.

Chemistry (Questions 61–75)

61. Which state of matter has a fixed volume but takes the shape of its container?
 A) solid B) liquid
 C) gas D) all three states
62. In which state of matter are the forces of attraction between particles the strongest?
 A) they are equal in all states
 B) gas
 C) liquid
 D) solid
63. The smell of cooking qabuli palaw quickly spreads through the whole house. Which idea best explains this?
 A) Air particles are attracted only to food.
 B) Gas particles are larger than solid particles.
 C) Gas particles move freely and spread out in all directions.
 D) Gas particles stop moving when they are warm.
64. Which of the following is a mixture?
 A) salt water B) pure water
 C) iron D) oxygen
65. When sugar dissolves in tea, the sugar is the:
 A) solvent B) precipitate
 C) solute D) solution

66. In which case will a spoon of sugar dissolve the fastest?
A) in cold water that is stirred
B) in hot water that is not stirred
C) in cold water that is not stirred
D) in hot water that is stirred
67. Which of these is a chemical change?
A) melting ice
B) burning wood
C) dissolving salt in water
D) cutting paper
68. Which correct order of steps will give dry salt from a mixture of sand and salt?
A) use a magnet → filter → add water
B) filter → add water → evaporate the sand
C) evaporate → add water → filter the salt
D) add water and stir → filter → evaporate the liquid
69. Which particle in an atom has a positive electric charge?
A) molecule **B)** electron **C)** proton **D)** neutron
70. A neutral atom has 8 protons. How many electrons does it have?
A) 0 **B)** 4 **C)** 8 **D)** 16
71. What is the chemical symbol for sodium?
A) So **B)** Na **C)** S **D)** N
72. An atom has 11 protons, 12 neutrons and 11 electrons. What is its atomic number?
A) 11 **B)** 12 **C)** 22 **D)** 23
73. The diagram shows a model of an atom. Which element is it?



- A)** oxygen **B)** carbon **C)** boron **D)** nitrogen
74. On very hot summer days, electricity wires between poles hang lower than in winter. Why?
A) The poles become shorter in summer.
B) Metals contract when they are heated.
C) The wires become heavier in summer.
D) Metals expand when they are heated.
75. The table gives the melting and boiling points of four substances. Which substance is a LIQUID at 25 °C?

Substance	Melting point (°C)	Boiling point (°C)
P	−8	59
Q	801	1413
R	−218	−183
S	44	280

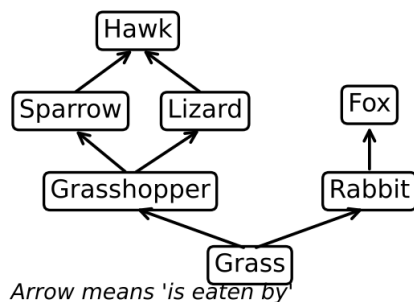
- A)** P **B)** Q **C)** R **D)** S

Biology (Questions 76–90)

76. Which organ is part of the digestive system?
A) heart **B)** stomach **C)** lung **D)** kidney

77. In which order does food pass through the digestive system?
A) mouth → oesophagus → stomach → small intestine → large intestine
B) mouth → large intestine → stomach → small intestine → oesophagus
C) mouth → stomach → oesophagus → large intestine → small intestine
D) mouth → oesophagus → small intestine → stomach → large intestine
78. In which organ are most digested food substances absorbed into the blood?
A) oesophagus **B)** small intestine
C) stomach **D)** large intestine
79. The brain and the spinal cord together form the:
A) digestive system
B) peripheral nervous system
C) skeletal system
D) central nervous system
80. Maryam touches a hot pan and quickly pulls her hand away. Which nerve cells carry the message from her skin to her spinal cord?
A) muscle cells **B)** blood cells
C) motor neurons **D)** sensory neurons
81. Cholera is caused by bacteria in contaminated water. What is the best way to prevent cholera in a village?
A) Sleep under a bed net at night.
B) Boil or treat drinking water and wash hands with soap.
C) Stay out of the sun.
D) Eat more sweet food.
82. A person with cholera has severe watery diarrhoea. What is the greatest immediate danger to the person?
A) loss of hearing
B) loss of too much water and salts from the body (dehydration)
C) a broken bone
D) too much sugar in the blood
83. Which natural resource is renewable if people use it wisely and plant new trees?
A) copper ore **B)** coal
C) forests **D)** natural gas
84. After many trees were cut on the hills above a village, floods became more frequent. What is the best explanation?
A) Trees make the soil softer, so floods stop.
B) Cut trees block the rivers every year.
C) Without tree roots, soil is washed away and less rainwater soaks into the ground.
D) Trees produce rain, so cutting them makes more rain.
85. Fossils are most often found in which type of rock?
A) sedimentary rock
B) metal ore
C) igneous rock formed from lava
D) volcanic glass

86. Which parts of an animal are most likely to become fossils?
- A) the blood
 - B) soft parts such as skin and muscles
 - C) hard parts such as bones, teeth and shells
 - D) the eyes and brain
87. Which gas do green plants release during photosynthesis?
- A) carbon dioxide
 - B) hydrogen
 - C) nitrogen
 - D) oxygen
88. The diagram shows a food web. If all the grasshoppers died, which change would happen FIRST?



- A) The grass would quickly die.
 - B) Foxes would have less food.
 - C) Rabbits would have less food.
 - D) Sparrows and lizards would have less food.
89. A student grew four plants as shown in the table. Which TWO plants should be compared to test whether light affects plant growth?

All plants: same type, same soil, same temperature

Plant	Light	Water	Height after 3 weeks
A	Yes	Yes	15 cm, green
B	No	Yes	6 cm, pale
C	Yes	No	3 cm, wilted
D	No	No	2 cm, dead

- A) A and B
 - B) A and C
 - C) A and D
 - D) B and C
90. Ahmad kept a green potted plant in a dark store-room for two weeks. Its leaves turned yellow and it became weak. What is the best explanation?
- A) Darkness made the soil too dry.
 - B) The plant had too much oxygen in the dark.
 - C) Without light, the plant could not carry out photosynthesis to make its food.
 - D) The plant was too cold because there was no light.

End of test. Check that every answer is marked on your answer sheet.