ABBOTTABAD PUBLIC SCHOOL
ABBOTTABAD
Mathematics Entrance Test – Grade 8

Syllabus: Grade 7
Total Marks: 100
(Objective: 40, Subjective: 60)
Section A: Objective (40 Marks)
Part I: Multiple Choice Questions (20 Marks)
(Choose the correct option – 1 mark each)
(Easy – 6)

1. The value of is:
   a) 48 b) 54 c) 56 d) 64
2. The square of 12 is:
   a) 124 b) 132 c) 144 d) 122
3. Simplify: .
   a) b) c) d)
4. Perimeter of a square with side 5 cm is:
   a) 20 cm b) 25 cm c) 15 cm d) 10 cm
5. The value of is:
   a) 0.25 b) 25 c) 2.5 d) 250
6. The reciprocal of is:
   a) b) c) d) 12

(Moderate – 6)

7. If , then
   a) 10 b) 13 c) 15 d) 8
8. HCF of 18 and 24 is:
   a) 2 b) 4 c) 6 d) 12
9. Find the mean of 5, 10, 15, 20.
   a) 10 b) 12.5 c) 15 d) 20
10. Area of a triangle with base 10 cm and height 8 cm is:
    a) 40 cm² b) 80 cm² c) 20 cm² d) 100 cm²
11. If , then
    a) 2 b) 3 c) 4 d) 5
12. The probability of getting a head when a coin is tossed is:
    a) 0 b) ½ c) 1 d) 2

(Difficult – 8)

13. If , then
    a) 8 b) 6 c) 4 d) 3
14. Value of is:
    a) 41 b) 43 c) 49 d) 56
15. A man bought a book for Rs. 240 and sold it for Rs. 300. His profit % is:
    a) 20% b) 25% c) 30% d) 40%
16. Solve:
    a) b) c) d)
17. If a = 2, b = –3, then value of is:
    a) 4 b) –6 c) –2 d) –3
18. In a right triangle, if base = 6 cm, height = 8 cm, then hypotenuse = ?
    a) 8 cm b) 10 cm c) 12 cm d) 14 cm
19. Simplify: .
    a) b) c) d)
20. If speed = 60 km/h and time = 2.5 h, distance = ?
    a) 120 km b) 130 km c) 140 km d) 150 km

Part II: Fill in the blanks (10 Marks)
(Fill with correct answers – 1 mark each)

21. The value of is ____.
22. Perimeter of rectangle = 2 × (length + ____).
23. The LCM of 12 and 18 is ____.
24. is equal to ____ percent.
25. The additive inverse of –8 is ____.
26. Area of circle = ____ × r².
27. The cube root of 64 is ____.
28. If sum of angles of triangle = 180°, then each angle in an equilateral triangle = ____.
29. ____.
30. 1 liter = ____ milliliters.

Part III: True / False (5 Marks)

31. Prime numbers start from 0. ( )
32. The probability of getting 7 on a dice is 1/6. ( )
33. The diagonals of a square are equal. ( )
34. Volume of cube = side². ( )
35. 0 is a natural number. ( )

Part IV: Match the Columns (5 Marks)

Column A	Column B
Area of square	side²
Pythagoras theorem	
Simple Interest	
Circumference of circle	
Mode	Most frequent value

Section B: Subjective (60 Marks)

Part I: Short Questions (6 × 5 = 30 Marks)
(Attempt any six – each 5 marks)

1. Solve: .
2. Find the average of 15, 20, 25, 30, 35.
3. Find perimeter of a rectangle whose length = 12 cm and breadth = 8 cm.
4. If CP = Rs. 500 and Profit = 20%, find SP.
5. Simplify: .
6. Find the mode of: 3, 5, 7, 5, 8, 9, 5, 10.
7. Write first 5 multiples of 12.

Part II: Long Questions (3 × 10 = 30 Marks)
(Attempt any three – each 10 marks)

8. A car travels 240 km in 4 hours. Find its speed. If it travels for 7 hours at the same speed, how much distance will it cover?
9. A box contains 3 red balls, 2 green balls, and 5 blue balls. One ball is drawn at random. Find the probability of getting:
    a) a red ball
    b) a green ball
    c) a blue ball
10. Solve the equation: .
11. The following table shows marks of students:

Marks	10	20	30	40	50
No. of Students	5	8	10	12	15

Find:
a) Mean marks
b) Median marks
12. The sides of a right triangle are 9 cm and 12 cm. Find:
a) Hypotenuse (using Pythagoras theorem)
b) Area of the triangle