

**Maths Revision Test**

**Time : 3 hrs**

**Max Marks: 80**

General Instructions:

1. Question numbers 1 to 20 are one-mark questions.
2. Question numbers 21 to 26 are two-mark questions.
3. Question numbers 27 to 34 are three-mark questions.
4. Question numbers 35 to 40 are four-mark questions.

Q1. What should be added to  $-\frac{5}{4}$  to get  $-1$ ?

- a.  $-\frac{1}{4}$
- b.  $\frac{1}{4}$
- c. 1
- d.  $-\frac{3}{4}$

Q2. Which of the following is the reciprocal of the reciprocal of a rational number?

- a.  $-1$
- b. 1
- c. 0
- d. The number itself

Q3. Which of the following lies between 0 and  $-1$ ?

- a. 0
- b.  $-3$
- c.  $-\frac{2}{3}$
- d.  $\frac{4}{3}$

Q4. Which of the following is the identity element?

- a. 1
- b.  $-1$
- c. 0
- d. None of these

Q5. Which of the following is the value of 'm' in  $6^m / 6^{-3} = 6^5$ ?

- a.  $-3$
- b.  $-2$
- c. 3
- d. 2

Q6. Which of the following is the standard form of 0.00001275?

- a.  $1.275 \times 10^{-5}$
- b.  $1.275 \times 10^5$
- c.  $127.5 \times 10^{-7}$
- d.  $127.5 \times 10^7$

Q7. 1 micron =  $1/1000000$  m. which of the following is its standard form?

- a.  $1.1 * 10^{-5}$
- b.  $1.6 * 10^{-5}$
- c.  $0.1 * 10^{-6}$
- d.  $1.0 * 10^{-6}$

Q8. What is the reciprocal of  $(-3 / 4)^0$ ?

- a. -1
- b. 1
- c.  $-4/3$
- d.  $4/3$

Q9. Which of the following is the difference between the squares of 21 and 22?

- a. 21
- b. 22
- c. 42
- d. 43

Q10. Which of the following can be a perfect square?

- (a) A number ending in 3 or 7
- (b) A number ending with odd number of zeros
- (c) A number ending with even number of zeros
- (d) A number ending in 2.

Q11. Which of the following is the number of non-perfect square number between 172 and 182?

- (a) 613
- (b) 35
- (c) 34
- (d) 70

Q12. If the digit in one's place of a number is 2, then the last digit of its cube will be:

- a. 2
- b. 4
- c. 6
- d. 8

Q13. If the digit in one's place of a number is 3, then the last digit of its cube will be:

- a. 3
- b. 6
- c. 7
- d. 9

Q14. Which of the following is the cube root of 27000?

- a. 30
- b. 300
- c. 3000
- d. None of these

Q15. The volume of a cubical box is  $64 \text{ cm}^3$ . Which of the following is its side?

- a. 2 cm
- b. 4 cm
- c. 6 cm
- d. 8 cm

Q16. In the equation  $3x = 4 - x$ , transposing  $-x$  to LHS we get

- a.  $3x - x = 4$
- b.  $3x + x = 4$
- c.  $-3x + x = 4$
- d.  $-3x - x = 4$

Q17. If  $x/3 + 1 = 7/15$ , then which of the following is correct?

- a.  $x/3 = 7/15 - 1$
- b.  $x/3 = -7/15 + 1$
- c.  $x/3 = -7/15 - 1$
- d. none of these

Q18. If  $x$  is an even number, which is the next odd number?

- a.  $X + 1$
- b.  $X + 2$
- c.  $X - 1$
- d.  $X - 2$

Q19. If  $2x/5 = 4$ , the value of  $x$  is-

- a. 10
- b. -10
- c.  $-8/5$
- d.  $8/5$

Q20. If the edge of a cube is 1 cm then which of the following is its volume?

- (a)  $6 \text{ m}^3$
- (b)  $3 \text{ m}^3$
- (c)  $1 \text{ m}^3$
- (d) None of these

Q21. What should be subtracted from  $5/8$  to make it  $-1$ ?

Q22. Write a rational number equivalent to  $9/10$  having 90 as numerator.

Q23. Show that 0.001728 is a cube root of a rational number.

Q24. Find the volume of a cube whose surface area is  $96 \text{ cm}^2$ .

Q25. Simplify:

$$(\sqrt{81} + \sqrt{0.81} + \sqrt{0.0081}) \times \sqrt{10000}$$

Q26. Sanjay will be 3 times as old as he was 4 years ago after 18 years. Find his present age.

Q27. Solve  $3x/4 - 7/4 = 5x + 12$ .

Q28. The digits of a 2-digit number differ by 5. If the digits are interchanged and the resulting number is added to the original number, we get 99. Find the original number.

Q29. Find  $m$  so that  $(-3)^{m+1} * (-3)^5 = (-3)^7$ .

Q30. Insert six rational numbers between  $-1/4$  and  $-2/5$

Q31. Compare  $7 * 10^{-6}$  and  $129 * 10^{-7}$ .

Q32. Find  $\sqrt{5625} = \underline{\hspace{2cm}}$ .

Q33. Find the height of a cuboid whose base area is  $180 \text{ cm}^2$  and volume is  $900 \text{ cm}^3$ .

Q34. Find the value of  $5^{-3} * 1/5^3$ .

Q35. Find the smallest number by which 3645 should be divided so as to get a perfect square. Also, find the square root of the number so obtained.

Q36. By which smallest number should 648 be multiplied so that the product is a perfect cube?

Q37. Write a Pythagorean triplet whose smaller member is 6.

Q38. If the sum of two numbers is 30 and their ratio is  $2/3$  then find the numbers.

Q39. Find the smallest square number that is divisible by each of the numbers 8, 15 and 20

Q40. The perimeter of a rectangular swimming pool is 154m. Its length is 2m more than twice its breadth. What are the length and the breadth of the pool?