# SELF EVALUATION TEST PAPER CLASS- 9th

1. Arrange the following rational numbers in ascending order:

(i) $\frac{3}{-5}, \frac{-7}{10}, \frac{-11}{15}, \frac{-13}{20}$ (ii) $\frac{-4}{7}, \frac{-9}{14}, \frac{13}{-28}, \frac{-23}{42}$

2. A cord of length $71\frac{1}{2}$ m has been cut into 26 equal pieces of length. What is the length of each piece?

3. The value of $x$ for which $\left(\frac{7}{12}\right)^{-4} \times \left(\frac{7}{12}\right)^{3x} = \left(\frac{7}{12}\right)^{5}$ ?

4. Evaluate: $\left\{\left(\frac{-2}{3}\right)^{3}\right\}^{-2}$

5. Find the least number which must be added to 6203 to obtain a perfect square. Find the perfect square and its square root.

6. Evaluate: $\frac{\sqrt{1183}}{\sqrt{2023}}$

7. Evaluate: $\sqrt[3]{64 \times 729}$

8. Find the least value of $(x+y+z)$ for which $x4y5z$ is exactly divisible by 9.

9. Find the products: $(x^2+xy+y^2)(x-y)$

10. Divide, $(2x^2+3x+1) \div (x+1)$

11. If $(a-b) = 7$ and $ab = 9$, then find $a^2+b^2 = ?$

12. Four-fifths of a number is greater than three-fourths of the number by 4. Then find the ~~#~~ number.

13. Gunpowder contains 75% nitre and 10% sulphur. Find the amount of gunpowder which carries 9kg nitre. What amount of gunpowder would contain 2.5 kg sulphur.

14. 11 men can dig $6\frac{3}{4}$ metre long trench in one day. How many men should be employed for digging 27 metre-long trench of the same type in one day?

15. 6 pipes fill a tank in 120 minutes, then 5 pipes will fill it in how many minutes?

16. A piece of ductile metal is in the form of a cylinder of diameter 1cm and length 11cm. It is drawn out into a wire of diameter 1mm. What will be the length of the wire so obtained?

or,

Find the number of coins, 1.5 cm in diameter and 0.2cm thick, to be melted to form a right circular cylinder with height of 10 cm and a diameter of 4.5 cm.

17. How many soap cakes each measuring 7cm × 5cm × 2.5cm can be placed in a box of size 56cm × 40cm × 25cm?

(18) A box contains 19 balls bearing numbers 1, 2, 3, 4, ...., 19 respectively. A ball is drawn at random from the box. Find the probability that the number on the ball is:

(i). a prime number

(ii). an even number.

(iii). a number divisible by 3.

(19) If $x + \frac{1}{x} = 2$, find $x^3 + \frac{1}{x^3}$

(20) If the ratio of angle of a quadrilateral is 1:2:3:4. Find the measure of each angles.