

Board – CBSE

Class – 8th

Topic – Linear equation in One variable (Problems for practice)

- Q.1 A number is as much greater than 36 as is less than 86. Find the number.
- Q.2 Find a number such that when 15 is subtracted from 7 times the number, the result is 10 more than twice the number.
- Q.3 The sum of a rational number and its reciprocal is $\frac{13}{6}$. Find the number.
- Q.4 The sum of two numbers is 184. If one-third of the one exceeds one-seventh of the other by 8, find the smaller number.
- Q.5 The difference of two numbers is 11 and one-fifth of their sum is 9. Find the numbers.
- Q.6 If the sum of two numbers is 42 and their product is 437, then find the absolute difference between the numbers.
- Q.7 The sum of two numbers is 15 and the sum of their squares is 113. Find the numbers.
- Q.8 The average of four consecutive even numbers is 27. Find the largest of these numbers.
- Q.9 The sum of the squares of three consecutive odd numbers is 2531. Find the numbers.
- Q.10 Of two numbers, 4 times the smaller one is less than 3 times the larger one by 5. If the sum of the numbers is larger than 5 times their difference by 22, find the two numbers.
- Q.11 The ratio between a two-digit number and the sum of the digits of that number is 4 : 1. If the digit in the unit's place is 3 more than the digit in the ten's place, what is the number ?
- Q.12 A number consists of two digits. The sum of the digits is 9. If 63 is subtracted from the number, its digits are interchanged. Find the number.
- Q.13 A fraction becomes $\frac{2}{3}$ when 1 is added to both, its numerator and denominator. And, it becomes $\frac{1}{2}$ when 1 is subtracted from both the numerator and denominator. Find the fraction.
- Q.14 50 is divided into two parts such that the sum of their reciprocals is $\frac{1}{12}$. Find the two parts.

Q.15 If three numbers are added in pairs, the sums equal 10, 19 and 21. Find the numbers.

Q.16 Solve the following equations.

(i) $\frac{8x - 3}{3x} = 2$

(ii) $\frac{9x}{7 - 6x} = 15$

(iii) $\frac{z}{z + 15} = \frac{4}{9}$

(iv) $\frac{3y + 4}{2 - 6y} = \frac{-2}{5}$

(v) $\frac{7y + 4}{y + 2} = \frac{-4}{3}$

Q.17 Solve the following equations and check your results.

(i) $3x = 2x + 18$

(ii) $5t - 3 = 3t - 5$

(iii) $5x + 9 = 5 + 3x$

(iv) $4z + 3 = 6 + 2z$

(v) $2x - 1 = 14 - x$

(vi) $8x + 4 = 3(x - 1) + 7$

(vii) $x = \frac{4}{5}(x + 10)$

(viii) $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$

(ix) $2y + \frac{5}{3} = \frac{26}{3} - y$

(x) $3m = 5m - \frac{8}{5}$

Q.18 If you subtract $\frac{1}{2}$ from a number and multiply the result by $\frac{1}{2}$, you get $\frac{1}{8}$. What is the number?

Q.19 The perimeter of a rectangular swimming pool is 154 m. Its length is 2 m more than twice its breadth. What is the length and the breadth of the pool?

Q.20 The base of an isosceles triangle is $\frac{4}{3}$ cm. The perimeter of the triangle is $4\frac{2}{15}$ cm. What is the length of either of the remaining equal sides?

Q.21 Sum of two numbers is 95. If one exceeds the other by 15, find the numbers.

Q.22 Two numbers are in the ratio 5: 3. If they differ by 18, what are the numbers?

Q.23 Three consecutive integers add to get 51. What are these integers.

Q.24 The sum of three consecutive multiples of 8 is 888. Find the multiples.

- Q.25** Three consecutive integers are such that when they are taken in increasing order and multiplied by 2, 3 and 4 respectively, they add up to 74. Find these numbers.
- Q.26** The ages of Rahul and Haroon are in the ratio 5: 7. Four years later the sum of their ages will be 56 years. What are their present ages?
- Q.27** The number of boys and girls in a class are in the ratio 7: 5. The number of boys is 8 more than the number of girls. What is the total class strength?
- Q.28** Baichung's father is 26 years younger than Baichung's grandfather and 29 years older than Baichung. The sum of the ages of all the 3 is 135 years. What is the age of each one of them?
- Q.29** Fifteen years from now Ravi's age will be four time his present age. What is Ravi's present age?
- Q.30** A rational number is such that when you multiply it by $\frac{5}{2}$ and add $\frac{2}{3}$ to the product, you get $-\frac{7}{12}$. What is the number?