EXERCISE # 1

Q.1 Write each of the following statements as an equation

(i) 5 times a number equals 40.

(ii) A number increased by 8 equals 15.

(iii) 25 exceeds a number by 7.

(iv) A number exceeds 5 by 3.

(v) 5 subtracted from thrice a number is 16.

(vi) If 12 is subtracted from a number, the result is 24.

(vii) Twice a number subtracted from 19 is 11.

(viii) A number divided by 8 gives 7.

(ix) 3 less than 4 times a number is 17.

(x) 6 times a number is 5 more than the number.

Q.2 Write a statement for each of the equations, given below :

(i) $x - 7 = 14$ (ii) $2y = 18$

(iii) $11 + 3x = 17$ (iv) $2x - 3 = 13$

(v) $12y - 30 = 6$ (vi) $\frac{2z}{3} = 8$

Q.3 Verify by substitution that

(i) the root of $3x - 5 = 7$ is $x = 4$.

(ii) the root of $3 + 2x = 9$ is $x = 3$.

(iii) the root of $5x - 8 = 2x - 2$ is $x = 2$.

(iv) the root of $8 - 7y = 1$ is $y = 1$.

(v) the root of $\frac{z}{7} = 8$ is $z = 56$.

Q.4 Solve each of the following equations by the trial and error method :

(i) $y + 9 = 13$ (ii) $x - 7 = 10$

(iii) $4x = 28$ (iv) $3y = 36$

(v) $11 + x = 19$ (vi) $\frac{x}{3} = 4$

(vii) $2x - 3 = 9$ (viii) $\frac{1}{2}x + 7 = 11$

(ix) $2y + 4 = 3y$ (x) $z - 3 = 2z - 5$

Solve each of the following equations and verify the answer in each cases :

Q.5 $x + 5 = 12$

Q.6 $x + 3 = -2$

Q.7 $x - 7 = 6$

Q.8 $x - 2 = -5$

Q.9 $3x - 5 = 13$

Q.10 $4x + 7 = 15$

Q.11 $\frac{x}{5} = 12$

Q.12 $\frac{3x}{5} = 15$

Q.13 $5x - 3 = x + 17$

Q.14 $2x - \frac{1}{2} = 3$

Q.15 $3(x + 6) = 24$

Q.16 $6x + 5 = 2x + 17$

Q.17 $\frac{x}{4} - 8 = 1$

Q.18 $\frac{x}{2} = \frac{x}{3} + 1$

Q.19 $3(x + 2) - 2(x - 1) = 7$

Q.20 $5(x - 1) + 2(x + 3) + 6 = 0$

Q.21 $6(1 - 4x) + 7(2 + 5x) = 53$

Q.22 $16(3x - 5) - 10(4x - 8) = 40$

Q.23 $3(x + 6) + 2(x + 3) = 64$

Q.24 $3(2 - 5x) - 2(1 - 6x) = 1$

Q.25 $\frac{n}{4} - 5 = \frac{n}{6} + \frac{1}{2}$

Q.26 $\frac{2m}{3} + 8 = \frac{m}{2} - 1$

Q.27 $\frac{2x}{5} - \frac{3}{2} = \frac{x}{2} + 1$

Q.28 $\frac{x - 3}{5} - 2 = \frac{2x}{5}$

Q.29 $\frac{3x}{10} - 4 = 14$ **Q.30** $\frac{3}{4}(x-1) = x - 3$

ANSWER KEY

1. (i) $5x = 40$ (ii) $x + 8 = 15$ (iii) $25 - x = 7$ (iv) $x - 5 = 3$ (v) $3x - 5 = 16$

(vi) $x - 12 = 24$ (vii) $19 - 2x = 11$ (viii) $\frac{x}{8} = 7$ (ix) $4x - 3 = 17$ (x) $6x = x + 5$

2. (i) 7 less from the number x is 14

(ii) Twice the number y is 18

(iii) 11 increased by thrice the number x is 17

(iv) 3 less from twice the number x is 13

(v) 12 times the number y decreased by 30 is 6

(vi) Twice the number z divided by 3 is 8

4. (i) $y = 4$ (ii) $x = 17$ (iii) $x = 7$ (iv) $y = 12$ (v) $x = 8$

(vi) $x = 12$ (vii) $x = 6$ (viii) $x = 8$ (ix) $x = 4$ (x) $z = 2$

5. $x = 7$ **6.** $x = -5$ **7.** $x = 13$ **8.** $x = -3$ **9.** $x = 6$

10. $x = 2$ **11.** $x = 60$ **12.** $x = 25$ **13.** $x = 5$ **14.** $x = \frac{7}{4}$

15. $x = 2$ **16.** $x = 3$ **17.** $x = 36$ **18.** $x = 6$ **19.** $x = -1$

20. $x = -1$ **21.** $x = 3$ **22.** $x = 5$` **23.** $x = 8$ **24.** $x = 1$

25. $n = 66$ **26.** $m = -54$ **27.** $x = -25$ **28.** $x = -13$ **29.** $x = 60$

30. $x = 9$

EXERCISE # 2

Q.1 If 9 is added to a certain number, the result is 36. Find the number.

Q.2 If 11 is subtracted from 4 times a number, the result is 89. Find the number.

Q.3 Find a number which when multiplied by 5 is increased by 80.

Q.4 The sum of three consecutive natural numbers is 114. Find the numbers.

Q.5 When Raju multiplies a certain number by 17 and adds 4 to the product, he gets 225. Find that number.

Q.6 If a number is tripled and the result is increased by 5, we get 50. Find the number.

Q.7 Find two numbers such that one of them exceeds the other by 18 and their sum is 92.

Q.8 One out of two numbers is thrice the other. If their sum is 124. Find the numbers.

Q.9 Find two numbers such that one of them is five times the other and their difference is 132.

Q.10 The sum of two consecutive even numbers is 74. Find the numbers.

Q.11 The sum of three consecutive odd numbers is 21. Find the numbers.

Q.12 Reena is 6 years older than her brother Ajay. If the sum of their ages is 28 years, what are their present ages ?

Q.13 Deepak is twice as old as his brother Vikas. If the difference of their ages be 11 years, find their present ages?

Q.14 Mrs Goel is 27 years older than her daughter Rekha. After 8 years she will be twice as old as Rekha. Find their present ages.

Q.15 A man is 4 times as old as his son. After 16 years he will be only twice as old as his son. Find their present ages.

Q.16 A man is thrice as old as his son. Five years ago the man was four times as old as his son. Find their present ages.

Q.17 After 16 years, Fatima will be three times as old as she is now. Find her present age.

Q.18 After 32 years, Rahim will be 5 times as old as he was 8 years ago. How old is Rahim today ?

Q.19 A bag contians 25-paisa and 50-paisa coins whose total value is ₹30. If the number of 25-paisa coins is four time that of 50-paisa coins, find the number of each types of coins.

Q.20 Five times the price of a pen is ₹17 more than three times its price. Find the price of the pen.

Q.21 The number of boys in a school is 334 more than the number of girls. If the total strength of the school is 572, find the number of girls in the school.

Q.22 The length of a rectangular park is thrice its breadth. If the perimeter of the park is 168 metres, find its dimensions.

Q.23 The length of a rectangular hall is 5 metres more than its breadth. If the perimeter of the hall is 74 meters, find its length and breadth.

Q.24 A wire of length 86 cm is bent in the form of a rectangle such that its length is 7 cm more than its breadth. Find the length and the breadth of the rectangle so formed.

ANSWER KEY

1. 27 **2.** 25 **3.** 20 **4.** 37, 38, 39 **5.** 13

6. 15 **7.** 37, 55 **8.** 31, 93 **9.** 33, 165 **10.** 36, 38

11. 5, 7, 9

12. Ajay's age = 11 years, Reena's age = 17 years

13. 22 years, 11 years

14. 46 years, 19 years

15. 32 years, 8 years

16. 45 years, 15 years

17. 8 years

18. 18 years

19. 80 and 20

20. ₹ 8.50

21. 119

22. l = 63 m, b = 21 m

23. l = 21 m, b = 16 m

24. l = 25 cm, b = 18 cm

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